ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janice K. Brewer
Governor

Henry R. Darwin
Director

MAY 2 4 2012

Mr. Jared Blumenfeld, Regional Administrator
U.S. Environmental Protection Agency, Region IX
Mail Code ORA-1
75 Hawthorne Street
San Francisco, CA 94105

RE: 2012 *Update of the Limited Maintenance Plan for the Bullhead City PM_{10} Maintenance Area*

Dear Mr. Blumenfeld:

Consistent with Arizona Revised Statutes §49-104, §49-404, and §49-406(B) (Enclosure 1) and the Code of Federal Regulations (CFR) Title 40, §51.102 through §51.104, the Arizona Department of Environmental Quality (ADEQ) hereby adopts and submits to the U.S. Environmental Protection Agency (EPA) the *Update of the Limited Maintenance Plan for the Bullhead City PM_{10} Maintenance Area* as a revision to the Arizona State Implementation Plan (SIP).

Under Clean Air Act (CAA) Sec. 175A(b), "8 years after redesignation of any area as an attainment area under section 107(d), the State shall submit to the Administrator an additional revision of the applicable State implementation plan for maintaining the national primary ambient air quality standard for 10 years after the expiration of the 10-year period referred to in subsection (a)." This SIP updates the 2002 *Bullhead City Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment*, providing for the maintenance of the national primary ambient air quality standard for the years 2012 through 2022.

The original attainment demonstration and maintenance plan submission relied on reasonably available control measures (RACM), measures to reduce cleared land area emissions, and local paving activities to demonstrate maintenance of the National Ambient Air Quality Standard (NAAQS) in the area. Arizona Administrative Code (A.A.C) R18-2-607, requiring control of storage piles to minimize fugitive emissions, was the only ADEQ promulgated rule relied on to demonstrate attainment and maintenance for the area. This update includes no new request for additional federally enforceable rules or standards. Reference to the following local ordinances, state rules, and other strategies are submitted as supplemental information and not for incorporation into the Arizona Applicable SIP:

-Section 3.2.3., Industrial Sources – Table 3.2, Bullhead City Area Permitted Sources and Reported 2008 PM_{10} Emissions, and
-Section 5.1.2., Supplemental Control Measures

This update does include notice of early implementation of a contingency measure. In 2004, Arizona promulgated changes to R18-2-702(B). The rule, however, was not a measure that was relied on to demonstrate attainment or maintenance, and the rule change was not driven by a contingency measure implementation trigger. R18-2-702, *General Provisions*, was incorporated by reference by EPA in 2004 (69 FR 51952).

With this submission, ADEQ requests that EPA approve this demonstration of continued maintenance of the National Ambient Air Quality Standard (NAAQS) in the Bullhead City PM_{10} Maintenance Area. Enclosure 2 is the SIP Completeness Checklist. Enclosure 3 contains one paper copy and an electronic copy of the SIP revision for your review and action. The provided electronic copy is an exact duplicate of the hard copy. Enclosure 4 includes the public comment and hearing documentation. If you have any questions, please contact Eric Massey, Director, Air Quality Division, at (602) 771-2308.

Sincerely,

Eric Massey
Director, Air Quality Division

Enclosures (4)

cc: Lisa Hanf, EPA Region IX
Colleen McKaughan, EPA Region IX

Enclosure 1

Arizona Revised Statutes:
(1) Title 49, chapter 1, article 1, section 49-104;
(2) Title 49, chapter 3, article 1, section 49-404;
(3) Title 49, chapter 3, article 1, section 49-406(B)

(This Page Intentionally Left Blank)

ARIZONA LAWS RELATING TO ENVIRONMENTAL QUALITY

2010-2011 EDITION

Reprinted from LexisNexis™ Arizona Annotated Revised Statutes,
2010-11 Edition

Copies of this pamphlet are available at the
State Bar of Arizona
4201 N. 24th Street, Suite 200
Phoenix, AZ 85016-6288
Phone: (602) 340-7318

QUESTIONS ABOUT THIS PUBLICATION?

For CUSTOMER SERVICE ASSISTANCE concerning replacement pages, shipments, billing, reprint permission, or other matters,

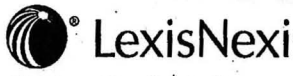
please call Customer Service Department at 800-833-9844
email *customer.support@lexisnexis.com*
or visit our interactive customer service website at *www.lexisnexis.com/printcdsc*

For EDITORIAL **content questions** concerning this publication,

please email: *LLP.CLP@lexisnexis.com*

For **information on other LEXISNEXIS MATTHEW BENDER publications,**

please call us at 800-223-1940
or visit our online bookstore at *www.lexisnexis.com/bookstore*



Matthew Bender & Company, Inc.
Editorial Offices
701 E. Water Street
Charlottesville, VA 22902
800-446-3410
www.lexisnexis.com

Product Number 2060523

(Pub. 20605)

3. "Director" means the director of environmental quality who is also the director of the department. 2000

Recent legislative year: Laws 2000, Ch. 353, § 2.

49-102. Department of environmental quality; director; deputy director; division directors; divisions

A. The department of environmental quality is established.

B. The governor shall appoint a director of environmental quality pursuant to section 38-211. The director shall administer the department and serve at the pleasure of the governor. The director is entitled to receive compensation as determined under section 38-611. The director shall appoint a deputy director and, subject to legislative appropriation, may appoint division directors if necessary. The positions of director and deputy director are exempt from title 41, chapter 4, articles 5 and 6 relating to state service.

C. To be eligible for appointment as director a person must have a background or experience in one or more of the following areas:

1. Public administration.
2. Planning.
3. Personnel management.
4. Law.
5. Environmental science.

D. The director may organize the department into divisions as he deems appropriate. 1994

49-103. Department employees; legal counsel

A. The director, subject to title 41, chapter 4, articles 5 and 6, shall employ, determine the conditions of employment and specify the duties of administrative, secretarial and clerical employees as he deems necessary.

B. The attorney general shall be the legal advisor of the department and shall give legal services as the department requires. Compensation for personnel assigned by the attorney general to perform such services shall be a charge against appropriations to the department. The attorney general shall prosecute and defend in the name of this state all actions necessary to carry out the provisions of this title. 1986

49-104. Powers and duties of the department and director

A. The department shall:

1. Formulate policies, plans and programs to implement this title to protect the environment.

2. Stimulate and encourage all local, state, regional and federal governmental agencies and all private persons and enterprises that have similar and related objectives and purposes, cooperate with those agencies, persons and enterprises and correlate department plans, programs and operations with those of the agencies, persons and enterprises.

3. Conduct research on its own initiative or at the request of the governor, the legislature or state or local agencies pertaining to any department objectives.

4. Provide information and advice on request of any local, state or federal agencies and private persons and business enterprises on matters within the scope of the department.

5. Consult with and make recommendations to the governor and the legislature on all matters concerning department objectives.

6. Promote and coordinate the management of air resources to assure their protection, enhancement and balanced utilization consistent with the environmental policy of this state.

7. Promote and coordinate the protection and enhancement of the quality of water resources consistent with the environmental policy of this state.

8. Encourage industrial, commercial, residential and community development that maximizes environmental benefits and minimizes the effects of less desirable environmental conditions.

9. Assure the preservation and enhancement of natural beauty and man-made scenic qualities.

10. Provide for the prevention and abatement of all water and air pollution including that related to particulates, gases, dust, vapors, noise, radiation, odor, nutrients and heated liquids in accordance with article 3 of this chapter and chapters 2 and 3 of this title.

11. Promote and recommend methods for the recovery, recycling and reuse or, if recycling is not possible, the disposal of solid wastes consistent with sound health, scenic and environmental quality policies.

12. Prevent pollution through the regulation of the storage, handling and transportation of solids, liquids and gases that may cause or contribute to pollution.

13. Promote the restoration and reclamation of degraded or despoiled areas and natural resources.

14. Assist the department of health services in recruiting and training state, local and district health department personnel.

15. Participate in the state civil defense program and develop the necessary organization and facilities to meet wartime or other disasters.

16. Cooperate with the Arizona-Mexico commission in the governor's office and with researchers at universities in this state to collect data and conduct projects in the United States and Mexico on issues that are within the scope of the department's duties and that relate to quality of life, trade and economic development in this state in a manner that will help the Arizona-Mexico commission to assess and enhance the economic competitiveness of this state and of the Arizona-Mexico region.

17. Unless specifically authorized by the legislature, ensure that state laws, rules, standards, permits, variances and orders are adopted and construed to be consistent with and no more stringent than the corresponding federal law that addresses the same subject matter. This provision shall not be construed to adversely affect standards adopted by an Indian tribe under federal law.

B. The department, through the director, shall:

1. Contract for the services of outside advisers, consultants and aides reasonably necessary or desirable to enable the department to adequately perform its duties.

2. Contract and incur obligations reasonably necessary or desirable within the general scope of department activities and operations to enable the department to adequately perform its duties.

3. Utilize any medium of communication, publication and exhibition when disseminating information, advertising and publicity in any field of its purposes, objectives or duties.

4. Adopt procedural rules that are necessary to implement the authority granted under this title, but that are not inconsistent with other provisions of this title.

5. Contract with other agencies, including laboratories, in furthering any department program.

6. Use monies, facilities or services to provide matching contributions under federal or other programs that further the objectives and programs of the department.

7. Accept gifts, grants, matching monies or direct payments from public or private agencies or private persons and enterprises for department services and publications and to conduct programs that are consistent with the general purposes and objectives of this chapter. Monies received pursuant to this paragraph shall be deposited in the department fund corresponding to the service, publication or program provided.

8. Provide for the examination of any premises if the director has reasonable cause to believe that a violation of any environmental law or rule exists or is being committed on the premises. The director shall give the owner or operator the opportunity for its representative to accompany the director on an examination of those premises. Within forty-five days after the date of the examination, the department shall provide to the owner or operator a copy of any report produced as a result of any examination of the premises.

9. Supervise sanitary engineering facilities and projects in this state, authority for which is vested in the department, and own or lease land on which sanitary engineering facilities are located, and operate the facilities, if the director determines that owning, leasing or operating is necessary for the public health, safety or welfare.

10. Adopt and enforce rules relating to approving design documents for constructing, improving and operating sanitary engineering and other facilities for disposing of solid, liquid or gaseous deleterious matter.

11. Define and prescribe reasonably necessary rules regarding the water supply, sewage disposal and garbage collection and disposal for subdivisions. The rules shall:

(a) Provide for minimum sanitary facilities to be installed in the subdivision and may require that water systems plan for future needs and be of adequate size and capacity to deliver specified minimum quantities of drinking water and to treat all sewage.

(b) Provide that the design documents showing or describing the water supply, sewage disposal and garbage collection facilities be submitted with a fee to the department for review and that no lots in any subdivision be offered for sale before compliance with the standards and rules has been demonstrated by approval of the design documents by the department.

12. Prescribe reasonably necessary measures to prevent pollution of water used in public or semipublic swimming pools and bathing places and to prevent deleterious conditions at such places. The rules shall prescribe minimum standards for the design of and for sanitary conditions at any public or semipublic swimming pool or bathing place and provide for abatement as public nuisances of premises and facilities that do not comply with the minimum standards. The rules shall be developed in cooperation with the director of the department of health services and shall be consistent with the rules adopted by the director of the department of health services pursuant to section 36-136, subsection H, paragraph 10.

13. Prescribe reasonable rules regarding sewage collection, treatment, disposal and reclamation systems to prevent the transmission of sewage borne or insect borne diseases. The rules shall:

(a) Prescribe minimum standards for the design of sewage collection systems and treatment, disposal and reclamation systems and for operating the systems.

(b) Provide for inspecting the premises, systems and installations and for abating as a public nuisance any collection system, process, treatment plant, disposal system or reclamation system that does not comply with the minimum standards.

(c) Require that design documents for all sewage collection systems, sewage collection system extensions, treatment plants, processes, devices, equipment, disposal systems, on-site wastewater treatment facilities and reclamation systems be submitted with a fee for review to the department and may require that the design documents anticipate and provide for future sewage treatment needs.

(d) Require that construction, reconstruction, installation or initiation of any sewage collection system, sewage collection system extension, treatment plant, process, device, equipment, disposal system, on-site wastewater treatment facility or reclamation system conform with applicable requirements.

14. Prescribe reasonably necessary rules regarding excreta storage, handling, treatment, transportation and disposal. The rules shall:

(a) Prescribe minimum standards for human excreta storage, handling, treatment, transportation and disposal and shall provide for inspection of premises, processes and vehicles and for abating as public nuisances any premises, processes or vehicles that do not comply with the minimum standards.

(b) Provide that vehicles transporting human excreta from privies, septic tanks, cesspools and other treatment processes shall be licensed by the department subject to compliance with the rules.

15. Perform the responsibilities of implementing and maintaining a data automation management system to support the reporting requirements of title III of the superfund amendments and reauthorization act of 1986 (P.L. 99-499) and title 26, chapter 2, article 3.

16. Approve remediation levels pursuant to article 4 of this chapter.

C. The department may:

1. Charge fees to cover the costs of all permits and inspections it performs to ensure compliance with rules adopted under section 49-203, except that state agencies are exempt from paying the fees. Monies collected pursuant to this subsection shall be deposited, pursuant to sections 35-146 and 35-147, in the water quality fee fund established by section 49-210.

2. Contract with private consultants for the purposes of assisting the department in reviewing applications for licenses, permits or other authorizations to determine whether an applicant meets the criteria for issuance of the license, permit or other authorization. If the department contracts with a consultant under this paragraph, an applicant may request that the department expedite the application review by requesting that the department use the services of the consultant and by agreeing to pay the department the costs of the consultant's services. Notwithstanding any other law, monies paid by applicants for expedited reviews pursuant to this paragraph are appropriated to the department for use in paying consultants for services.

D. The director may:

1. If the director has reasonable cause to believe that a violation of any environmental law or rule exists or is being committed, inspect any person or property in transit through this state and any vehicle in which the person or property is being transported and detain or disinfect the person, property or vehicle as reasonably necessary to protect the environment if a violation exists.

2. Authorize in writing any qualified officer or employee in the department to perform any act that the director is authorized or required to do by law. 2010

Recent legislative year: Laws 1999, Ch. 26, § 3; Laws 2000, Ch. 225, § 2; Laws 2001, Ch. 21, § 3; Laws 2001, Ch. 231, § 12; Laws 2001, Ch. 400, § 1; Laws 2003, Ch. 104, § 37; Laws 2010, 2nd Reg. Sess., Ch. 265, § 1; Laws 2010, 2nd Reg. Sess., Ch. 309, § 14.

49-105. Annual report on violations and enforcement

Repealed by Laws 2003, Ch. 104, § 38.

49-106. Statewide application of rules

The rules adopted by the department apply and shall be observed throughout this state, or as provided by their terms, and the appropriate local officer, council or board shall enforce them. This section does not limit the authority of local governing bodies to adopt ordinances and rules within their respective jurisdictions if those ordinances and rules do not conflict with state law and are equal to or more restrictive than the rules of the department, but this section does not grant local governing bodies any authority not otherwise provided by separate state law. 1987

49-107. Local delegation of state authority

A. The director may delegate to a local environmental agency, county health department, public health services district or municipality any functions, powers or duties which the director believes can be competently, efficiently and properly performed by the local agency if the local agency accepts the delegation and agrees to perform the delegated functions, powers and duties according to the standards of performance required by law and prescribed by the director.

B. Monies appropriated or otherwise made available to the department for distribution to local agencies may be allocated or reallocated in a manner designed to assure that the recognized local activities and the delegated functions, powers and duties are accomplished according to the applicable standards of performance.

C. The director may terminate, for cause, all or part of the delegation and reallocate all or part of any monies that may have been conditioned on the further performance of the delegated functions, powers and duties. 2000

Recent legislative year: Laws 2000, Ch. 11, § 20.

49-108. Hazardous materials emergency response operations

The director of environmental quality shall establish a hazardous materials emergency response and recovery organizational unit in the department to function as the scientific support, health, safety and environmental element of the hazardous materials emergency management program pursuant to section 26-305.02. On request from the department of health services and at the direction of the director of environmental quality, the unit shall perform appropriate soil and water sampling for toxic and other harmful effects on the public health and the environment in areas that have been affected by a chemical or other toxic fire. 2007

Recent legislative year: Laws 2007, Ch. 153, § 5.

49-109. Certificate of disclosure of violations; remedies

A. The following persons shall file a certificate of disclosure with the department as prescribed by this section:

1. A person who is engaged in an activity subject to regulation under this title and who has been convicted of a felony involving laws related to solid waste, special waste, hazardous waste, water quality or air quality in any state or federal jurisdiction or for a violation of 42 United States Code section 9603 within the five year period immediately preceding execution of the certificate.

2. Except in proceedings in which the department, or this state on behalf of the department, is or was a party, a person who is engaged in an activity subject to regulation under this title and who is or has been subject in any civil proceeding to an injunction, decree, judgment or permanent order of any state or federal court within the five year period immediately preceding the execution of the certificate that involved a violation of laws of that jurisdiction relating to solid waste, special waste, hazardous waste, used oil or used oil fuel, petroleum, water quality or air quality, except for a misdemeanor violation of section 49-550, or a violation of 42 United States Code section 9603.

B. The certificate of disclosure prescribed by subsection A of this section shall contain the following:

1. Identification of that person, including without limitation present full name, all prior names or aliases, including full birth name, present house address and all prior addresses for the immediately preceding five year period, date and location of birth and social security number.

2. The nature and description of each conviction or judicial action, the date and location, the court and public agency involved and the file or cause number of the case.

3. A written declaration that each signer swears to its contents under penalty of perjury.

C. The certificate of disclosure submitted on behalf of a corporation shall be executed by any two executive officers or directors of that corporation.

D. For purposes of subsection A of this section, "person" means a natural person, any public or private corporation, its officers, directors, trustees, incorporators and persons controlling or holding over ten per cent of the issued and outstanding common shares or ten per cent of any other proprietary, beneficial or membership interest in the corporation, a partnership, including all general partners and limited partners controlling a ten per cent or more beneficial interest in the partnership, association or society of persons, the federal government and any of its departments or agencies, this state and any of its agencies, depart-

permitted source or a component of the permitted source. Such standards shall be applied to sources identified in subsection A, paragraph 2, 3, 4 or 5 of this section only if the standard is formally proposed for adoption as part of the state implementation plan.

E. The regional planning agency for each county which contains a vehicle emissions control area shall develop plan revisions containing transportation related air quality control measures designed to attain and maintain primary and secondary ambient air quality standards as prescribed by and within the time frames specified in the clean air act. In developing the plan revisions, the regional planning agency shall consider all of the following:

1. Mandatory employee parking fees.
2. Park and ride programs.
3. Removal of on-street parking.
4. Ride share programs.
5. Mass transit alternatives.
6. Expansion of public transportation systems.
7. Optimizing freeway ramp metering.
8. Coordinating traffic signal systems.
9. Reduction of traffic congestion at major intersections.
10. Site specific transportation control measures.
11. Reversible lanes.
12. Fixed lanes for buses and carpools.
13. Encouragement of pedestrian travel.
14. Encouragement of bicycle travel.
15. Development of bicycle travel facilities.
16. Employer incentives regarding ride share programs.
17. Modification of work schedules.
18. Strategies for controlling the generation of air pollution by nonresidents of nonattainment or maintenance areas.
19. Use of alternative fuels.
20. Use of emission control devices on public diesel powered vehicles.
21. Paving of roads.
22. Restricting off-road vehicle travel.
23. Construction site air pollution control.
24. Other air quality control measures.

F. Each regional planning agency shall consult with the department of transportation to coordinate the plans developed pursuant to subsection E of this section with transportation plans developed by the department of transportation pursuant to any other law. 2002

Recent legislative year: Laws 1999, Ch. 295, § 41; Laws 2002, Ch. 110, § 1.

49-403. General permits and individual permits; issuance; definition

A. A person may petition the director or control officer for a determination that a particular class or category of sources should be subject to a general permit instead of an individual permit that is issued under this chapter. The petition shall state the grounds for the determination that is the subject of the petition, including how the class or category meets the criteria prescribed in the applicable statute or rule for a general permit. The director or control officer shall either grant or deny the petition within sixty days after its receipt. If the petition is granted, the director or control officer shall initiate the formal process for issuing the general permit within six months. If the petition is denied, the denial is an appealable agency action pursuant to title 41, chapter 6, article 10.

B. For the purposes of this section, "general permit" has the same meaning prescribed in section 41-1001. 2010

Recent legislative year: Laws 2010, 2nd Reg. Sess., Ch. 287, § 17.

49-404. State implementation plan

A. The director shall maintain a state implementation plan that provides for implementation, maintenance and enforcement of national ambient air quality standards and protection of visibility as required by the clean air act.

B. The director may adopt rules that describe procedures for adoption of revisions to the state implementation plan.

C. The state implementation plan and all revisions adopted before September 30, 1992 remain in effect according to their terms, except to the extent otherwise provided by the clean air act, inconsistent with any provision of the clean air act, or revised by the administrator. No control requirement in effect, or required to be adopted by an order, settlement agreement or plan in effect, before the enactment of the clean air act in any area which is a nonattainment or maintenance area for any air pollutant may be modified after enactment in any manner unless the modification insures equivalent or greater emission reductions of the air pollutant. The director shall evaluate and adopt revisions to the plan in conformity with federal regulations and guidelines promulgated by the administrator for those purposes until the rules required by subsection B are effective. 1999

Recent legislative year: Laws 1999, Ch. 295, § 42.

49-405. Attainment area designations

A. The governor may designate the status and classification of areas of this state with respect to attainment of national ambient air quality standards.

B. The director shall adopt rules that both:

1. Describe the geographic extent of attainment, nonattainment or unclassifiable areas of this state for all pollutants for which a national ambient air quality standard exists.

2. Establish procedures and criteria for changing the designations of areas that include all of the following:

(a) Technical bases for proposed changes, including ambient air quality data, types and distributions of sources of air pollution, population density and projected population growth, transportation system characteristics, traffic congestion, projected industrial and commercial development, meteorology, pollution transport and political boundaries.

(b) Provisions for review of and public comment on proposed changes to area designations.

(c) All area designations adopted by the administrator as of May 30, 1992.

C. On promulgation by the administrator of new or revised national ambient air quality standards for pollutants, the department shall develop proposed recommendations regarding designations for geographic areas of this state as being in attainment or

:ainment or unclassifiable with respect to that ard. The proposed recommendations shall be pro- to the governor to assist the governor in submit- ecommendations to the administrator pursuant to nited States Code section 7407(d)(1)(A). The de- nent shall develop the proposed recommendations llows:

No earlier than five months before the date by :h the governor must make the recommendations no later than four months before that date, the artment shall complete a draft of the proposed mmendations and a technical support document explains the scientific and other bases for the draft posal.

No earlier than five months before the date by ich the governor must make the recommendations l no later than four months before that date, the partment shall post the draft proposed recommen- tions and technical support document on the depart- ent's website. The department shall provide actual tice of the posting to counties and municipalities at would be included in a nonattainment area under e proposed recommendations and to any person who ad previously requested actual notice of the draft ocuments. Actual notice of the posting may be pro- ided by electronic or other means.

3. The website posting and actual notices prescribed n paragraph 2 of this subsection shall include notice hat until the close of the comment period, any person nay submit written comments to the department re- garding the draft proposed recommendations and tech- nical support document. The notice shall also include the date, time and location of a public hearing for the department to receive verbal comments and answer questions concerning the draft proposal. The written comment period shall close and the hearing shall be held no later than forty-six days before the date by which the governor must make the recommendations.

4. After the close of the comment period and after the public hearing and not later than one month before the date by which the governor must make the recom- mendations, the department shall finalize the proposed recommendations and technical support document and submit them to the governor. The department's final proposed recommendations and technical support doc- ument shall:

(a) Consider the comments received by the depart- ment pursuant to paragraph 3 of this subsection. For any area that is proposed to be designated a nonattain- ment area in the final proposed recommendations, the department shall with the submittal to the governor include a responsiveness summary that explains with reasonable particularity the department's consider- ation of and responses to comments received pursuant to paragraph 3 of this subsection.

(b) Be posted on the department's website within five days after the department's submittal to the gov- ernor. The posting shall include any responsiveness summary, and the department shall provide actual notice of the posting to counties and municipalities that would be included in a nonattainment area under the final proposed recommendations and to any person who had previously requested actual notice of the documents. Actual notice of the posting may be pro- vided by electronic or other means.

D. The department shall post on its website a copy of the governor's recommendations within five days after the recommendations are submitted to the administrator.

E. If the administrator requires the governor's recommendations to be submitted six months after promulgation of the new or revised national ambient air quality standards or earlier, the time frames prescribed in subsections C and D shall be reduced by one-half. 2010

Recent legislative year: Laws 2010, 2nd Reg. Sess., Ch. 315, § 2.

49-406. Nonattainment area plan

A. For any ozone, carbon monoxide or particulate nonattainment or maintenance area the governor shall certify the metropolitan planning organization designated to conduct the continuing, cooperative and comprehensive transportation planning process for that area under 23 United States Code section 134 as the agency responsible for the development of a nonattainment or maintenance area plan for that area.

B. For any ozone, carbon monoxide or particulate nonattainment or maintenance area for which no metropolitan planning organization exists, the department shall be certified as the agency responsible for development of a nonattainment or maintenance area plan for that area.

C. For any ozone, carbon monoxide or particulate nonattainment or maintenance area, the department, the planning agency certified pursuant to subsection A of this section on behalf of elected officials of affected local government, the county air pollution control department or district, and the department of transportation shall, by November 15, 1992, and from time to time as necessary, jointly review and update planning procedures or develop new procedures.

D. In preparing the procedures described in subsection C of this section, the department, the planning agency certified pursuant to subsection A of this section on behalf of elected officials of affected local government, the county air pollution control department or district, and the department of transportation shall determine which elements of each revised implementation plan will be developed, adopted, and implemented, through means including enforcement, by the state and which by local governments or regional agencies, or any combination of local governments, regional agencies or the state.

E. The department, the planning agency certified pursuant to subsection A of this section on behalf of elected officials of affected local government, the county air pollution control department or district, and the department of transportation shall enter into a memorandum of agreement for the purpose of coordinating the implementation of the procedures described in subsection C and D of this section.

F. At a minimum, the memorandum of agreement shall contain:

1. The relevant responsibilities and authorities of each of the coordinating agencies.

2. As appropriate, procedures, schedules and responsibilities for development of nonattainment or maintenance area plans or plan revisions and for determining reasonable further progress.

3. Assurances for adequate plan implementation.

Enclosure 2

SIP Completeness Checklist

(This Page Intentionally Left Blank)

STATE IMPLEMENTATION PLAN COMPLETENESS CHECKLIST

Submittal of

Final Update of the Limited Maintenance Plan for the Bullhead City PM_{10} Maintenance Area

1. SUBMITTAL LETTER FROM GOVERNOR/DESIGNEE

   See cover letter

2. EVIDENCE OF ADOPTION

   See cover letter

3. STATE LEGAL AUTHORITY FOR ADOPTION/IMPLEMENTATION

   See Enclosure 1

4. COMPLETE COPY OF STATUTE/REGULATION/DOCUMENT

   Not Applicable

5. WRITTEN SUMMARY OF RULE/RULE CHANGE

   Not Applicable

6. RULE CHANGES INDICATED BY UNDERLINING AND CROSS-OUTS

   Not Applicable

7. EVIDENCE THAT ARIZONA ADMINISTRATIVE PROCEDURE ACT REQUIREMENTS WERE MET FOR RULE/PLAN

   See Enclosure 4

8. EVIDENCE OF PUBLIC HEARING PER 40 CFR 51.102

   See Enclosure 4

9. PUBLIC COMMENTS AND AGENCY RESPONSE

   See Enclosure 4

10. IDENTIFICATION OF POLLUTANTS REGULATED BY RULE/PLAN

    See Enclosure 3

11. IDENTIFICATION OF SOURCES/ATTAINMENT STATUS

    See Enclosure 3

12. RULE'S/PLAN'S EFFECT ON EMISSIONS

    See Enclosure 3

13. DEMONSTRATION THAT NAAQS, PSD INCREMENTS AND RFP ARE PROTECTED

    See Enclosure 3

14. MODELING SUPPORT

    See Enclosure 3

15. EVIDENCE THAT EMISSIONS LIMITATIONS ARE BASED ON CONTINUOUS EMISSIONS REDUCTION TECHNOLOGY

    Not applicable.

16. IDENTIFICATION OF RULE SECTIONS CONTAINING EMISSION LIMITS, WORK PRACTICE STANDARDS, AND/OR RECORD KEEPING/REPORTING REQUIREMENTS

    Not applicable.

17. COMPLIANCE/ENFORCEMENT STRATEGIES

    See Enclosure 3

18. ECONOMIC TECHNICAL JUSTIFICATION FOR DEVIATION FROM U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) POLICIES

    No known deviation from EPA policy

Enclosure 3

Arizona State Implementation Plan Revision:
Limited Maintenance Plan Update for the Bullhead City PM_{10} Maintenance Area (2012)

(This Page Intentionally Left Blank)

ADEQ
Arizona Department
of Environmental Quality

Final

Limited Maintenance Plan Update for the Bullhead City PM_{10} Maintenance Area

Air Quality Division
May 2012

(This Page Intentionally Left Blank)

ARIZONA STATE IMPLEMENTATION PLAN REVISION
2011 LIMITED MAINTENANCE PLAN UPDATE
FOR THE BULLHEAD CITY PM_{10} MAINTENANCE AREA

TABLE OF CONTENTS

LIST OF FIGURES

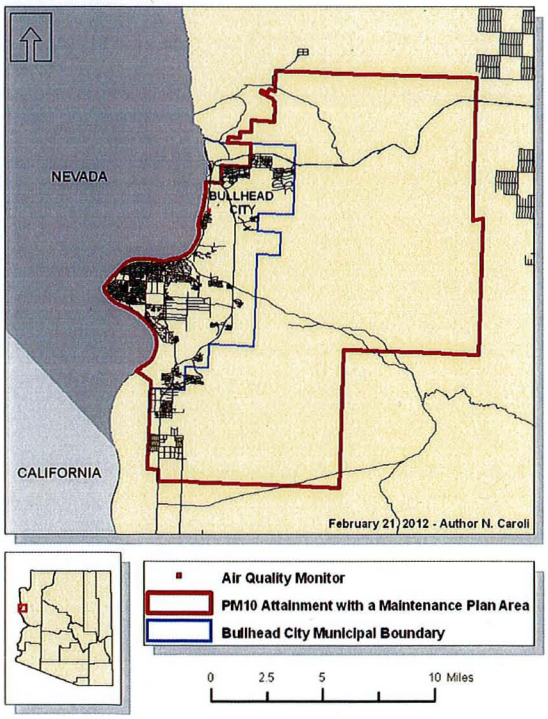
LIST OF TABLES

EXECUTIVE SUMMARY

Bullhead City is an Arizona community of about 40,000 residents in the northwest corner of the state. The area is a known travel destination and entertainment center because of many outdoor recreation activities on the Colorado River and Lake Mohave, as well as its proximity to the many casinos in Laughlin, Nevada. On December 21, 1993 EPA designated the area a moderate nonattainment area for the PM_{10} National Ambient Air Quality Standard (NAAQS) due to recorded exceedances of the 24-hour NAAQS for PM_{10} on June 21, 1989 (183 $\mu g/m^3$) and May 30, 1991 (188 $\mu g/m^3$), and an exceedance of the annual PM_{10} NAAQS for calendar year 1989 (52 $\mu g/m^3$) (58 FR 67334). In response to the designation, the Arizona Department of Environmental Quality (ADEQ) submitted the *Final Revised PM_{10} State Implementation Plan for the Bullhead City Nonattainment Area* projecting attainment of the PM_{10} NAAQS by 2001 with the implementation of control measures. In July 2001 EPA issued a clean data finding in a proposed rule (66 FR 38603). In February of 2002, ADEQ submitted to EPA the *Bullhead City Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment*. The plan was approved in 2002 (67 FR 43020); resulting in approval of the Limited Maintenance Plan (LMP) option for continued reporting and planning requirements. Annual reports have been filed under the LMP option for the area.

Pursuant to the Clean Air Act (CAA) Sec. 175A(b), "8 years after redesignation of any area as an attainment area under section 107(d), the State shall submit to the Administrator an additional revision of the applicable State implementation plan for maintaining the national primary ambient air quality standard for 10 years after the expiration of the 10-year period referred to in subsection (a)." This SIP updates the 2002 *Bullhead City Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment*, providing for the maintenance of the national primary ambient air quality standard for the years 2012 through 2022, consistent with the provisions of CAA Sec. 175A(b).

Analyses demonstrate that ambient air quality measurements have remained below the NAAQS for PM_{10} for the first ten years of the maintenance period. In addition, the 24-hour average design value remained below EPA's LMP eligibility threshold, and eligibility is likely to continue based on area motor vehicle growth projections. This document also demonstrates that the emission reduction control measures primarily responsible for the air quality improvement are both permanent and enforceable. These control measures include reasonably available control measures (RACM) to reduce fugitive dust emissions and measures to reduce cleared land area emissions. The document also includes a brief discussion of the PM_{10} regulatory history of the Bullhead City area, a description of the community and maintenance area, an updated emissions inventory, and demonstration of continued LMP eligibility and regulatory commitments. ADEQ will continue to provide EPA with annual monitoring reports as outlined under the LMP option[1] for the second ten-year period under the maintenance plan, 2012-2022.



[1] August 21, 2001 Wegman Memorandum: *Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas*

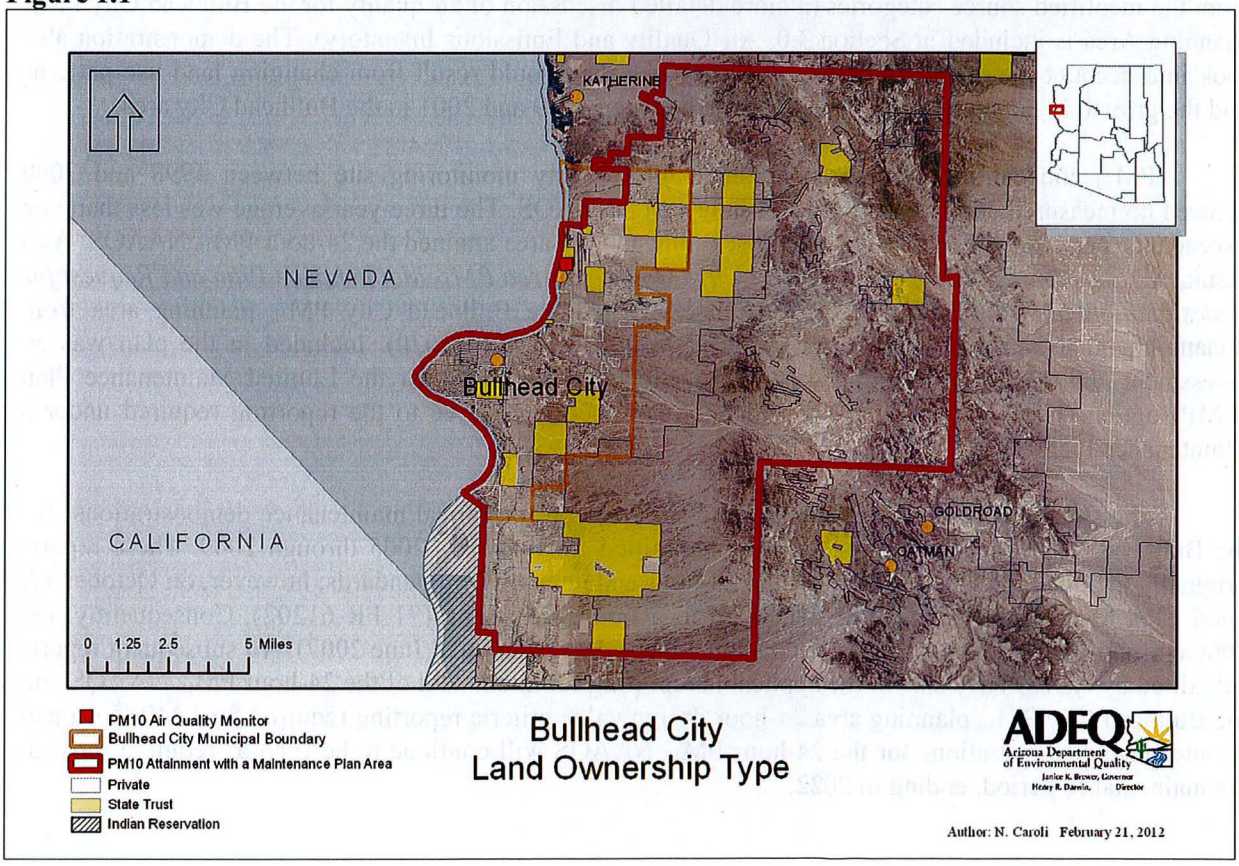
(This Page Intentionally Left Blank)

1.0. REGULATORY HISTORY

Bullhead City is a mid-sized community about two hundred twenty miles northwest of Phoenix and about ninety miles from Las Vegas, Nevada. The area is known to tourists for entertainment at the nearby casinos in Bullhead City's sister city, Laughlin, Nevada, and an availability of extensive outdoor recreation activities and areas, including the Colorado River and Lake Mohave. The community is across the Colorado River from Laughlin, and many of the residents of Bullhead City work at one of the eleven casinos located across the river. A map of Bullhead City detailing land ownership type is provided below (Figure 1.1).

There are no significant permitted sources of air pollution in Bullhead City and the area generally experiences a healthy air climate; however, fugitive dust from cleared land areas and travel on unpaved roads have contributed to air quality issues in the past.[2] On two days in 1989 and 1991, air quality monitors located in the Bullhead City, Arizona PM_{10} planning area recorded exceedances of the 24-hour PM_{10} NAAQS (Table 1.1) and there was an exceedance of the annual PM_{10} NAAQS for calendar year 1989 (52 $\mu g/m^3$)[3]. On December 21, 1993, EPA designated the Bullhead City, Arizona area as a moderate PM_{10} area, effective January 20, 1994 (58 FR 67334). As a result of this action, the state was required to submit to EPA a PM_{10} State Implementation Plan (SIP) which included an attainment demonstration for the area.

Figure 1.1



[2] Gertier A. W., Douglas A.L., Coulombe W .G., "PM_{10} Source Apportionment Study in Bullhead City, Arizona", Journal of the Air And Waste Management Association, 1995, 45, 75-82.

[3] EPA revoked the Annual PM_{10} standard in a final rulemaking on October 17, 2006 (71 FR 61202); therefore updated data regarding Annual PM_{10} levels are not presented in this update.

Table 1.1
24-Hour Exceedances of the PM_{10} NAAQS in Bullhead City 1989 - 1991[4]
24-hour PM_{10} NAAQS Standard = 150 $\mu g/m^3$

Date	PM_{10} Concentration ($\mu g/m^3$)
June 21, 1989	183
May 30, 1991	188

In November 1995, the Arizona Department of Environmental Quality (ADEQ) submitted to EPA the *Final Revised PM_{10} State Implementation Plan for the Bullhead City Nonattainment Area.* The SIP contained air quality modeling for the design year 1989 and projected attainment in the year 2001 based on emission reductions from certain PM_{10} sources such as reductions in grading activities. The 1989 base year emissions inventory was comprised mainly of PM_{10} emissions from cleared land areas, roads, and construction activities. The attainment demonstration was based upon the impact of implemented Reasonably Available Control Measures (RACM) that reduced PM_{10} emissions generated from the identified source categories (a more detailed discussion of air quality for the Bullhead City PM_{10} Planning Area is included in Section 3.0, Air Quality and Emissions Inventory). The demonstration also took into account the increases or decreases in PM_{10} that would result from changing land use patterns and the growth in population and vehicle traffic between 1989 and 2001 in the Bullhead City area.

PM_{10} concentrations reported at the Bullhead City monitoring site between 1998 and 2000 showed no measured exceedance of the 24-hour PM_{10} NAAQS. The three-year average was less than one exceedance per year, which demonstrated the Bullhead City area attained the 24-hour PM_{10} NAAQS. As a result, ADEQ submitted the 2002 *Bullhead City Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment* and the EPA redesignated the Bullhead City PM_{10} planning area from nonattainment to attainment, effective August 26, 2002 (67 FR 43020). Included in the plan was an assessment and demonstration of the Bullhead City area eligibility for the Limited Maintenance Plan (LMP) option. The LMP option allows for a streamlined alternative to the reporting required under a Maintenance Plan[5].

The streamlined reports filed under the LMP option (or annual maintenance demonstrations) for the Bullhead City PM_{10} Planning Area were submitted for the years 2005 through 2009. These reports originally included information for both the 24-hour and annual PM_{10} standards; however, on October 17, 2006 EPA revoked the annual PM_{10} standard in a final rulemaking (71 FR 61202). Consequently, the 2006 emissions year was the last reported annual PM_{10} data (submitted June 2007). All subsequent reports submitted by ADEQ have shown the applicable reporting for attainment of the 24-hour PM_{10} NAAQS and the Bullhead City PM_{10} planning area 24-hour design value criteria reporting required for LMPs.[6] Annual maintenance demonstrations for the 24-hour PM_{10} NAAQS will continue to be filed as required through the maintenance period, ending in 2022.

[4] *Final Revised PM_{10} State Implementation Plan for the Bullhead City Nonattainment Area*, Arizona Department of Environmental Quality, November 1995.
[5] August 21, 2001 Wegman Memorandum: *Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas*
[6] The method for calculating design values for PM_{10} is detailed in *PM_{10} SIP Development Guideline*, EPA-450/2-86-001, June 1987.

2.0. BULLHEAD CITY PM_{10} MAINTENANCE AREA

2.1. Location

Bullhead City is located in Mohave County along the Colorado River, the border of Arizona and Nevada (Figure II-1). On the west side of the Colorado River, is Laughlin, Nevada. Although Bullhead City developed with the construction of Davis Dam and Lake Mohave in the 1940s, it was not incorporated until 1984.

Because of the year-round recreational opportunities and the appeal to retirees, population in this area has grown rapidly. The area is part of the Colorado River resort area that extends from Lake Mead National Recreation Area south to Yuma.

In 2002 with the submittal of the redesignation request, ADEQ formally requested the boundary of the planning area exclude three townships and that the three townships be included as a portion of the State's unclassifiable area for PM_{10} under the provisions of CAA Section 107(d)(3)(D). This request was approved by EPA.[7] The current Bullhead City nonattainment area is more than 200 square miles in size and is defined by the following townships:

T21N, R21W, excluding Lake Mead National Recreational Area
T20N, R21-22W
T19N, R22W, excluding the Fort Mohave Indian Reservation.

2.2. Monitoring Network

The Desert Research Institute (DRI), associated with the University of Nevada, began monitoring total suspended particulates (TSP) in the Bullhead City area in 1969. In 1988, DRI switched from monitoring TSP to monitoring PM_{10} to comply with EPA's revision of the particulate NAAQS to a PM_{10} standard.

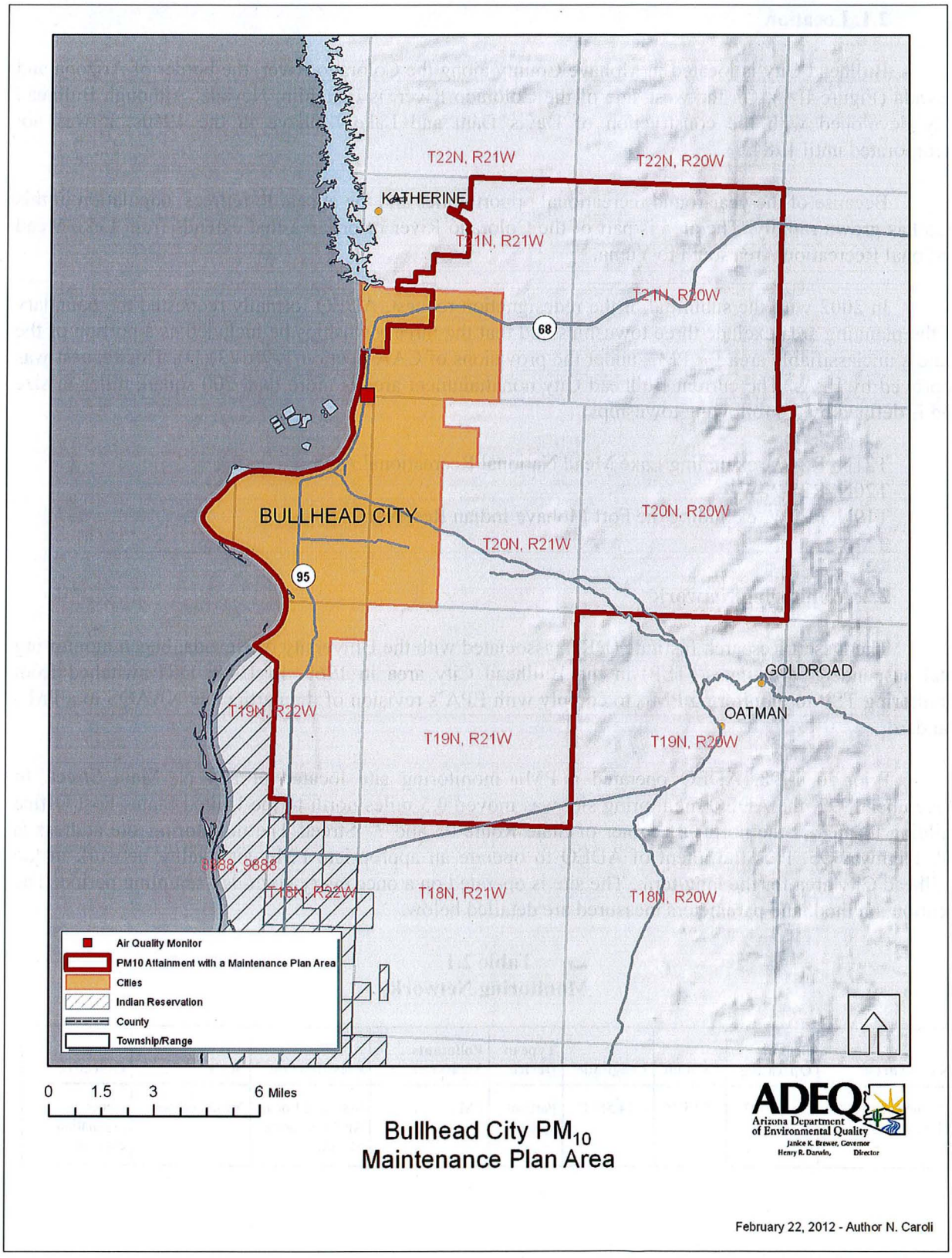
Prior to 1998, ADEQ operated a PM_{10} monitoring site located at 224 N. Main Street. In November 1997, the ADEQ monitoring site was moved 0.5 miles north to the United States Post Office building located at the northeast corner of State Route 95 and 7th Street. The monitoring site address is 990 Highway 95. It is the intent of ADEQ to operate an appropriate PM_{10} air quality network in the Bullhead City area for the long-term. The site is operated on a once every sixth-day sampling period. The location, method, and parameters measured are detailed below.

Table 2.1
Monitoring Network

Site Address	Began Operating	Latitude	Longitude	Type of Device	Pollutants Measured	Classification	Scale	Objective
Bullhead City, 990 Highway 95	Nov, 1997	35.1539°	-114.5661°	Partisol 2000	PM_{10}	State and Local Air Monitoring Station	Neighborhood	General population exposure

[7] 67 FR 43020, 43022

Figure 2.1


T22N, R21W
T22N, R20W
KATHERINE
T21N, R21W
T21N, R20W
68
BULLHEAD CITY
T20N, R20W
T20N, R21W
95
GOLDROAD
OATMAN
T19N, R22W
T19N, R21W
T19N, R20W
T18N, R22W
T18N, R21W
T18N, R20W
Air Quality Monitor
PM10 Attainment with a Maintenance Plan Area
Cities
Indian Reservation
County
Township/Range
0 1.5 3 6 Miles
Bullhead City PM10
Maintenance Plan Area
ADEQ
Arizona Department of Environmental Quality
Janice K. Brewer, Governor
Henry R. Darwin, Director
February 22, 2012 - Author N. Caroli

2.3. Population

In the 1970s, during which rural counties in the U.S. outpaced urban counties in population growth, the population of Mohave County nearly doubled. The population boom in northwestern Arizona continued in the 1980s, resulting in growth of more than 100 percent for Bullhead City between 1980 and 1990. At the same time, Mohave County grew at rate of 67.4 percent. Bullhead City continued to gain population during the 1990s at a rate exceeding 50 percent, but population growth for the city slowed to approximately 17 percent in the 2000s. In contrast, Mohave County's growth rate was 65 percent during the 1990s and continued a relatively strong population growth of 29 percent during the 2000s.

Decennial census data for Bullhead City and Mohave County are shown in Table 2.2. As evidenced in the 2010 census data, the populations of Bullhead City and Mohave County have continued to grow. Table 2.3 shows Arizona Department of Administration estimates of the population of the city and county from the period 2002 to 2008. The population in the area is projected to continue growing, albeit at a lower rate than historical levels. Table 2.4 includes Arizona Department of Administration population projections for both Bullhead City and Mohave County for the years 2010 through 2025.

Table 2.2
Decennial Census Population of Bullhead City and Mohave County: 1970-2010

Year	April 1 1970	April 1 1980	April 1 1990	April 1 2000	April 1 2010
Bullhead City	*	10,719	21,951	33,769	39,540
Mohave County	25,857	55,865	93,497	155,032	200,186

SOURCE: Arizona Department of Administration and the Arizona Office of Employment and Population Statistics
http://www.azstats.gov/population-estimates.aspx
*No Bullhead City specific data was available for inclusion.

Table 2.3
Update Following Attainment Demonstration,
Estimated Population of Bullhead City and Mohave County: 2002-2008

Year	2002	2004	2006	2008
Bullhead City	34,937	36,033	38,691	39,487
Mohave County	164,840	176,836	194,126	200,063

SOURCE: Arizona Department of Administration
http://www.azstats.gov/population-estimates.aspx

Table 2.4
Population Projections for Bullhead City and Mohave County: 2015-2025

Year	2015	2020	2025
Bullhead City	46,912	50,810	54,313
Mohave County	252,706	281,668	307,703

SOURCE: Arizona Department of Administration
http://www.azstats.gov/population-projections.aspx

2.3. Economics

Economic activity in Mohave County is centered on energy development, manufacturing, the transportation, logistics and distribution sector, health care, and the kinds of recreational opportunities found in the Bullhead City area (Lake Mohave & the Colorado River). Retail trade and various service industries also play an important role in the local economy. Because of the popularity of this area, permanent residents and tourists have increased demand for lodging, restaurants, and various businesses, including retail. The economic industry base for the region has not changed significantly since the 2002 *Bullhead City Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment* (2002 LMP) was submitted; the area continues to predominantly serve as a bedroom community with significant tourism.

Tables 2.5 and 2.6 show selected time series of civilian labor force data both before the Bullhead City area attainment designation and for the period following that designation. The unemployment rate fell to a low of 4.3% in 2000 and generally averaged between 4-5% until the later part of the decade. By 2010 the unemployment rate for Bullhead City rose to 10.7% due to prolonged nation-wide recession conditions and has continued to remain above historical norms. The increased unemployment rate for the area has not resulted in an associated population exodus, and it is anticipated that the unemployment rate will return to historical levels as national, state, and local economic conditions recover.

Table 2.5
Pre-Attainment Designation Civilian Labor Force Data for Bullhead City

Year	1992	1994	1996	1998	2000
Civilian Labor Force	13,050	15,314	16,643	16,487	16,202
Number Unemployed	1,341	1,426	1,343	836	691
Unemployment Rate	10.3%	9.3%	8.1%	5.1%	4.3%

SOURCE: www.azstats.gov

Table 2.6
Civilian Labor Force Data Update for Bullhead City

Year	2002	2004	2006	2008	2010
Civilian Labor Force	18,255	19,918	21,687	21,882	21,735
Number Unemployed	970	827	869	1,526	2,327
Unemployment Rate	5.3%	4.2%	4.0%	7.0%	10.7%

SOURCE: www.azstats.gov

3.0. AIR QUALITY & EMISSIONS INVENTORY

3.1. Air Quality Data for the 24-hour Standard

Since 1991, the Bullhead City area 24-hour PM_{10} design value (DV) levels have been in compliance with the NAAQS. This is due primarily to measures which control fugitive PM_{10} emissions generated from identified source categories. From the time of the submission of the 2002 LMP, and over the course of the maintenance period, the area ambient concentrations and design values (required in annual reporting) were below the NAAQS, 150 $\mu g/m^3$.

Whereas compliance with the NAAQS is evaluated based on the recorded high PM_{10} concentration events over the course of a year, the emissions inventory establishes an emissions profile of an average day based on the annual emissions for identified source categories. There are some differences in the proportional contribution of various source categories derived in this inventory when compared to previous analyses performed for Bullhead City in 2002. This is due in part to the following: area growth and development, changing technologies, implemented control measures, and improvement of assessment methodologies and technical tools since previous submittals.

The following sections in this chapter provide a discussion of the methodology used to update the emissions inventory for the area from identified contributing source categories and a presentation of the derived inventory.

3.2. Emissions Inventory – Methodology

The Limited Maintenance Plan (LMP) option requires an update of the emissions inventory along with the demonstration of continued eligibility through the end of the maintenance period, in this case the year 2022, through an analysis of potential motor vehicle emissions growth. The emissions inventory is used to determine the factors used in this growth analysis.

Updates were made to the LMP inventory for the following categories: construction, mobile sources, windblown dust (cleared land areas) and industrial sources. Construction emission data was updated using 2008 National Emission Inventory (NEI) data. Mobile emission data was updated using Highway Performance Monitoring System (HPMS) and National Mobile Inventory Model (NMIM) data. Windblown dust emission data was obtained by digitizing aerial imagery and obtaining meteorological wind speed data. Lastly, industrial point source emission data was updated with actual reported emissions from 2008 provided by the ADEQ Air Quality Permits Section.

Where appropriate, ADEQ used localized data with greater specificity to determine source contribution levels. The methodology used to determine contribution of the various sources is largely the same as conducted in 2002, except for the motor vehicle portions of the inventory. The on-road emissions were updated using a combination of Arizona Department of Transportation's Highway Performance Monitoring System (HPMS) traffic counts data for 2007 since this was the most current data available, and the generation of spatially explicit local paved and unpaved roads data.

The source categories used in the emissions inventory are the same as previously identified in the 2002 Bullhead City LMP. These categories include:

- construction activities
- windblown dust
- industrial sources
- unpaved roads – fugitive (re-entrained) dust
- paved roads – fugitive (re-entrained) dust
- all roads – exhaust, brake and tire wear

3.2.1. Construction Activities

For the Construction Activities category, ADEQ used the same methodology conducted for the 2002 LMP. The county-wide emissions reported in the 2008 NEI, the most recent EPA certified emissions data available, were adjusted to the Bullhead City Area using the population ratio of the Town of Bullhead City to that of Mohave County as a metric for scaling county level emissions to the Maintenance Area (using the 2008, population estimates below).

Population adjustment:
2008 Bullhead City Area Population = 39,487
2008 Mohave County Population = 200,063
Adjustment Ratio = 19.74%

Construction Emissions

The 2008 NEI reported a total of 3438 tons of PM_{10} per year from construction activities in Mohave County (see Table 1.0) during 2008. Based on the population scaling ratio, PM_{10} emissions from construction in the Bullhead City PM_{10} Non-Attainment Area were estimated to be 678.7 tons per year (19.74% of 3438 tons per year).

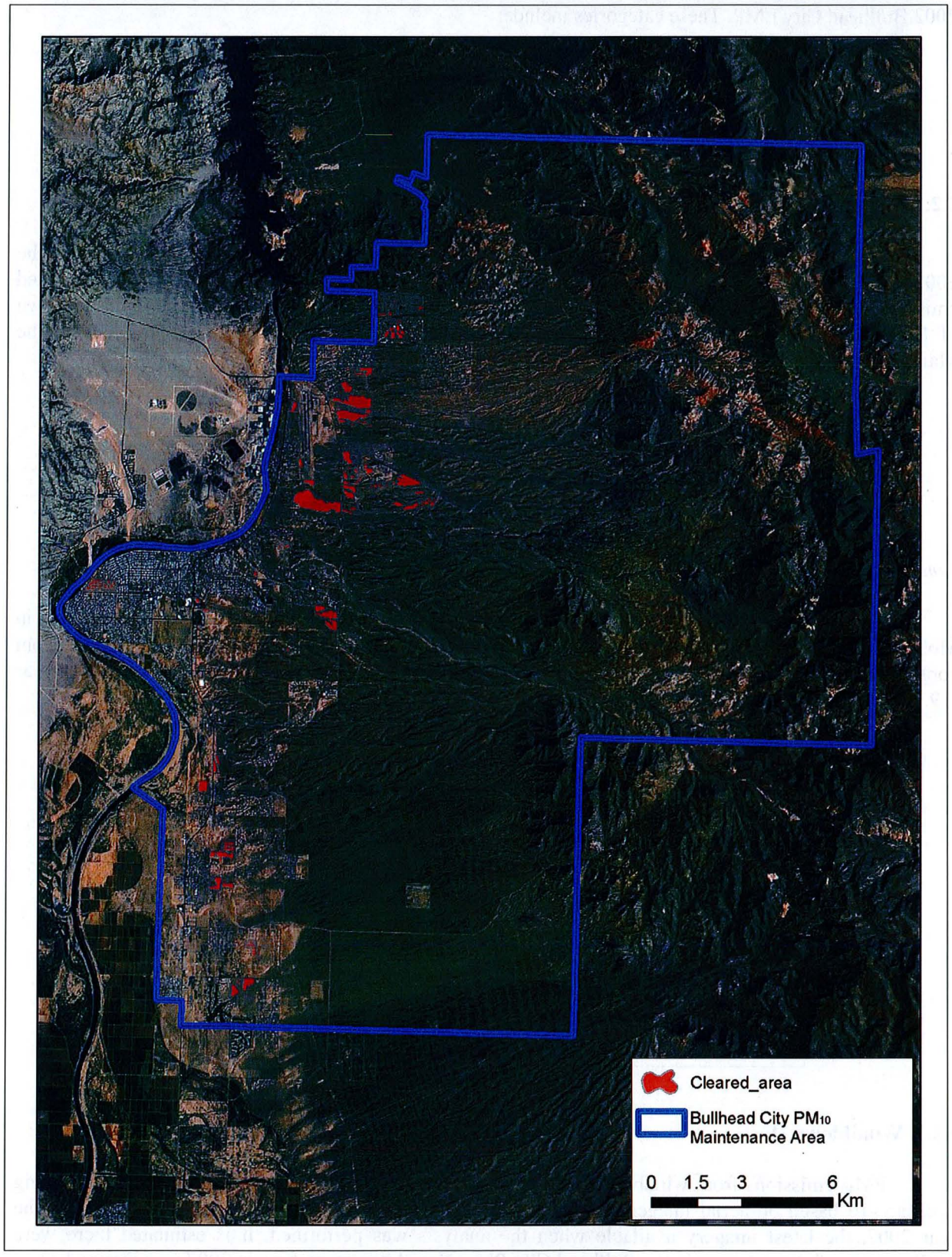
Table 3.1 2008 NEI Reported Construction Emissions for Mohave County & the Bullhead City Maintenance Area Estimation

SCC Construction Classification	County Tons per year	Bullhead City Area Estimated Tons per year
Road Construction	2,822	557.1
Industrial/Commercial	333	65.7
Residential	283	55.9
TOTAL	**3,438**	**678.7**

3.2.2. Windblown Dust

PM_{10} emissions from windblown dust were estimated by digitizing apparent cleared areas using ArcMap -10 based on aerial imagery from the National Agricultural Imagery Program (NAIP) for the year 2007, the latest imagery available when the analysis was performed. It is estimated there were 2,278.5 acres of cleared areas in the Bullhead City PM_{10} Non-Attainment Area in 2007 (see Figure 3.1).

Figure 3.1: Cleared land Area in Bullhead City PM_{10} Maintenance Area 2007



Due to lack of ground accuracy and poor image resolution, it was not possible to disaggregate the 2007 cleared areas into the six land use categories which were listed in the 2002 Bullhead City Limited Maintenance Plan.

Wind speed data for the Laughlin Bullhead Airport weather station (established April 7, 2005), in Bullhead City, Arizona were obtained from the National Oceanic & Atmospheric Administration's National Climatic Data Center for 2008. In 1999, the Laughlin Bullhead Airport weather station did not exist; therefore, the Kingman Airport (located 35 miles east) was used as a proxy indicator for the Bullhead City area. For this analysis, hourly wind speed data were then collected for the entire year and compared with a wind speed threshold of 24 miles per hour (20.8 knots), an assumed value for above which windblown dust entrainment occurs (consistent with the 2002 LMP approach). In 2008, there were 267 hours with wind speeds over 24 miles per hour at the Laughlin Bullhead Airport. In 1999, the wind speed at the Kingman airport exceeded the 24 miles per hour threshold a total of 291 hours.

An emissions factor of $6.22 * 10^{-4}$ grams per second per meter squared was applied based on the identified acreage and windblown dust entrainment. The wind speed data, threshold, and emissions factor are all consistent with the emission inventory development methodology of the previous LMP submittal. Using these parameters, it is estimated that there were 6075.1 tons per year (TPY) of windblown PM_{10} generated in the Bullhead City Maintenance Area in 2008.

3.2.3. Industrial Sources

Industrial sources emissions data for 2008 were provided by the ADEQ Compliance Section for Arizona permitted sources. These data are obtained from the facilities through the yearly emissions inventory reporting process. Emissions in this category totaled 5.28 tons per year. The following table (Table 3.2) is a listing of all active air quality permits in the Bullhead City Maintenance Area and their reported annual emissions for 2008. Notably, the PM_{10} emissions from permitted facilities in the maintenance area are low, and any potential new source development will require emission constraints consistent with the regulatory ranges appropriate for the maintenance area.

Table 3.2
Bullhead City Area Permitted Sources & Reported 2008 PM_{10} Emissions[8]

Source Name	Description	2008 Reported PM_{10} Emissions (tons per year)
CEMEX CONSTRUCTION MATERIALS SOUTH LLC	ROCK CRUSHER SCREENER PLANT	1.6280
CEMEX CONSTRUCTION MATERIALS SOUTH, LLC.	CONCRETE BATCH PLANT	0.4881
DIMOND & SONS INC	MORTUARY/CREMATORIUM - HUMANS	0.0439
KIEWIT WESTERN CO	ASPHALT BATCH PLANT	1.0913
NORTHERN IMPROVEMENT COMPANY DBA MCCORMICK CONSTRUCTION	ROCK CRUSHER / SCREENER PLANT	0.0693

[8] Reporting sources identifying PM_{10} emissions less than 0.01 tons per year were excluded from the table.

Source Name	Description	2008 Reported PM_{10} Emissions (tons per year)
S & S CONCRETE & MATERIALS LLC	CONCRETE BATCH PLANT	0.9134
S & S CONCRETE & MATERIALS LLC	ROCK CRUSHER / SCREENER PLANT	0.8757
WESTERN ARIZONA MEDICAL CENTER	MEDICAL FACILITY - BOILERS & GENERATORS	0.1478
TOTAL		**5.2575**

3.2.4. On-road Emissions

Exhaust, Tire, and Brake Wear: Paved and Unpaved Roads

PM_{10} exhaust, tire, and brake wear emissions factors were derived from the National Mobile Inventory Model (NMIM). ADEQ used NMIM to extract VMT and PM_{10} emissions from exhaust and tire and brake wear for 2008 for Mohave County, Arizona including all twelve NMIM vehicle types. PM_{10} emissions factors were then back calculated from NMIM's output. The result established an emissions factor per vehicle class per roadway functional classification. The classes were grouped into the two main categories: 1) passenger vehicles, and 2) trucks. The HPMS Field Manual (*Chapter 4: Universe and Sample Data Requirements, Items 82 and* 84),[9] was followed for grouping vehicle classes into either of these two categories. ADEQ then averaged the emissions factors for each vehicle class in each roadway functional classification. Table 3.3 shows PM_{10} exhaust, tire, and brake wear emissions factors[10].

Re-entrained Dust

Unpaved Road: EPA revised the AP-42 re-entrained dust equation for unpaved roads in 2006. The revised equation is shown below:

$$(1)\quad E = \{[\, 1.8 \times (s/12) \times (S/30)^{0.5} \,] / (M/0.5)^{0.2} \} - C$$

Where

E = size-specific emission factor (lb/VMT)

s = surface material silt content (%)

M = surface material moisture content (%)

S = mean vehicle speed (mph)

and

C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

[9] http://www.fhwa.dot.gov/ohim/hpmsmanl/chapt4.cfm

[10] Emission factors for Rural Interstate, Urban Interstate, and Urban Other Freeways and Expressways are not provided because these roadway classifications were not found in the NMIM output for Mohave County. These roadway classifications were also not present in HPMS 2007 data for the Bullhead City PM_{10} Maintenance Area.

Table 3.3
PM_{10} Emissions Factors (g/VMT) for Tire, Exhaust, and Brake Wear in Mohave County
By Roadway Functional Class and Vehicle Class

Vehicle Class	Roadway Functional Class								
	Rural Other Principal Arterial	Rural Minor Arterial	Rural Major Collector	Rural Minor Collector	Rural Local (unpaved)	Urban Other Principal Arterial	Urban Minor Arterial	Urban Collector	Urban Local
Passenger Vehicles									
LDGV	0.0250	0.0250	0.0250	0.0251	0.0251	0.0252	0.0252	0.0252	0.0253
LDDV	0.0986	0.0986	0.0986	0.0986	0.0986	0.0987	0.0987	0.0987	0.0987
MC	0.0371	0.0371	0.0371	0.0372	0.0372	0.0373	0.0373	0.0373	0.0373
Average	**0.0536**	**0.0536**	**0.0536**	**0.0536**	**0.0536**	**0.0537**	**0.0537**	**0.0537**	**0.0537**
Trucks									
LDGT1	0.0254	0.0254	0.0254	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255
LDGT2	0.0261	0.0261	0.0261	0.0261	0.0261	0.0262	0.0262	0.0262	0.0262
HDGV	0.0738	0.0736	0.0742	0.0742	0.0742	0.0723	0.0723	0.0723	0.0723
LDDT	0.1074	0.1072	0.1072	0.1075	0.1073	0.1076	0.1075	0.1074	0.1075
HDDV2b	0.1205	0.1205	0.1205	0.1205	0.1205	0.1205	0.1205	0.1205	0.1205
HDDV (3, 4, & 5)	0.1134	0.1134	0.1134	0.1134	0.1134	0.1134	0.1134	0.1134	0.1134
HDDV (6 & 7)	0.2163	0.2163	0.2163	0.2163	0.2163	0.2163	0.2163	0.2163	0.2163
HDDV (8a & 8b)	0.3039	0.3039	0.3039	0.3039	0.3039	0.3039	0.3039	0.3039	0.3039
HDDBT & HDDBS	0.5202	0.5202	0.5201	0.5200	0.5201	0.5201	0.5202	0.5201	0.5202
Average	**0.1674**	**0.1674**	**0.1674**	**0.1675**	**0.1675**	**0.1673**	**0.1673**	**0.1673**	**0.1673**

Source: NMIM.

Several assumptions were made to produce the updated emission factor for unpaved road re-entrained dust. They are as follows:

s (surface material silt content): A surface material silt content of 16.0% is consistent with that used for the Clark County, Nevada PM_{10} SIP.

M (surface material moisture content): a surface material moisture content of 1% is reasonable for a dry state like Arizona and for the region.

S (Mean Vehicle Speed): which has only about 25 days a year with at least 0.254 mm (0.01 in) of precipitation, and a mean speed of 30 mph is typical for Arizonans driving on unpaved roads.

C (emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear): Data for the emission factor is included in Table 13.2.2-4 from the EPA document "AP-42, Section 13.2.2 Unpaved Roads - Updated November 2006"

The effect of routine watering to control emissions from unpaved roads is discussed in the AP-42 EPA document. All roads are subject to some natural mitigation because of rainfall and other precipitation. The Equation (1) emission factors can be extrapolated to annual average uncontrolled conditions (but including natural mitigation) under the simplifying assumption that annual average emissions are inversely proportional to the number of days with measurable (more than 0.254 mm [0.01 inch]) precipitation.

The adjustment is shown below in Equation 2:

$$(2)\ E_{ext} = E\,[(365 - P)/365]$$

Where:

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation, (lb/VMT)

E = emission factor from Equation (1)

and

P = number of days in a year with at least 0.254 mm (0.01 in) of precipitation. Per the AP-42 guidance, the number of days in a year with at least 0.254 mm (0.01 in) falls between 20 and 30 for Bullhead City; an estimate of 25 is used in this calculation.

Upon applying the values in equations 1 and 2, the resulting emission factor is 882.24 gm/vmt.

Paved Roads: The equation for re-entrained dust emissions factors from paved roads in AP-42 was updated in 2010. To take these changes into consideration, ADEQ derived paved roads re-entrained fugitive dust emissions factors from AP-42 Volume I, Fifth Edition (Revision 2010)[11]. AP-42 Sections 13.2.1.1 through 13.2.1.15 provided guidance for the calculation of dust emissions factors. ADEQ used formula (1) in Section 13.2.1.3, reproduced below:

$$(1)\ E = k\,(sL)^{0.91} \times (W)^{1.02},\ \text{(AP-42)}$$

Where:

E = particulate emission factor (having units matching the units of k),

k = particle size multiplier for particle size range and units of interest,

[11] http://www.epa.gov/ttnchie1/ap42/

sL = road surface silt loading (grams per square meter) (g/m^2),

and

W = average weight (tons) of the vehicles traveling the road.

For consistency, ADEQ used a particle size multiplier k of 1, a silt loading (sL) value of 0.2 g/m^2, and an average vehicle weight W of 3.2 tons as was used in the previous LMP. Substituting the variables in Equation (1) on page 11, ADEQ obtained a re-entrained dust emissions factor of 0.7572 grams per mile. Table 3.4 shows the re-entrained dust emissions factors for paved and unpaved roads.

Table 3.4 PM10 Fugitive Dust Emissions Factors

	Fugitive Dust Emissions Factor (g/mile)
Unpaved roads	882.24
Paved roads	0.7572

Annual Average Daily Travel (AADT) and Vehicle Miles Traveled (VMT): Activity levels for on-road PM_{10} emissions were determined using the Arizona Department of Transportation's Highway Performance Monitoring System (ADOT-HPMS) for 2007, a geospatially-referenced database ("geo-database") of publicly-maintained roads in Arizona. The geo-database includes Annual Average Daily Traffic (AADT) counts on roadway segments and sampling segment lengths in miles for major and minor arterials (i.e., freeways, expressways) and major and minor collectors. It does not, however, contain data on local roads. To address this limitation, ADEQ digitized local paved and unpaved roadway centerlines in a geographic information system (GIS) using 2007 aerial photography from the USDA's National Agriculture Imagery Program (NAIP), at a cartographic scale of 1:2000. Lacking AADT counts for local roads, an assumed value of 10 AADT for these roads (paved and unpaved) was used.[12] In GIS, HPMS roadways within the Bullhead City PM_{10} Maintenance Area were extracted and VMT calculated by multiplying the AADT value in each road segment by the segment's length in miles. Figure 3.1 shows VMT both for HPMS and digitized local roads in 2007 in the Bullhead City PM_{10} Maintenance Area.

HPMS data also contain percent average daily single unit and combination trucks by roadway segment, an indicator of vehicle class mix.[13] ADEQ used this information to estimate the following for each roadway segment: (1) the fraction of VMT from trucks (defined as the sum of the fraction average daily single unit trucks and fraction average daily combination trucks); and (2) the fraction of VMT from passenger vehicles [one minus the calculation in (1)].[14]

On-Road Emissions Calculation Summary: ADEQ applied the emissions factors in Tables 3.3 and 3.4 to VMT in each roadway segment separately to passenger vehicle and truck categories to calculate

[12] Based on the number of houses on an unpaved road, the AADT could range from 100 to 0. A rough estimate of the Vehicle Miles Traveled (VMT) on any section of unpaved road could range from 0 to 300. ADEQ used an estimated AADT of 10 in this analysis to approximate the travel for unpaved roads. The range of AADT is in the same range found in the "Maricopa Five Percent Plan" (AADT range from 4 to 150).

[13] See HPMS Manual Chapter 4: "Universe and Sample Data Requirements," Items 82 and 84 http://www.fhwa.dot.gov/ohim/hpmsmanl/chapt4.cfm

[14] A breakdown of the emission estimations by road segment is available upon request.

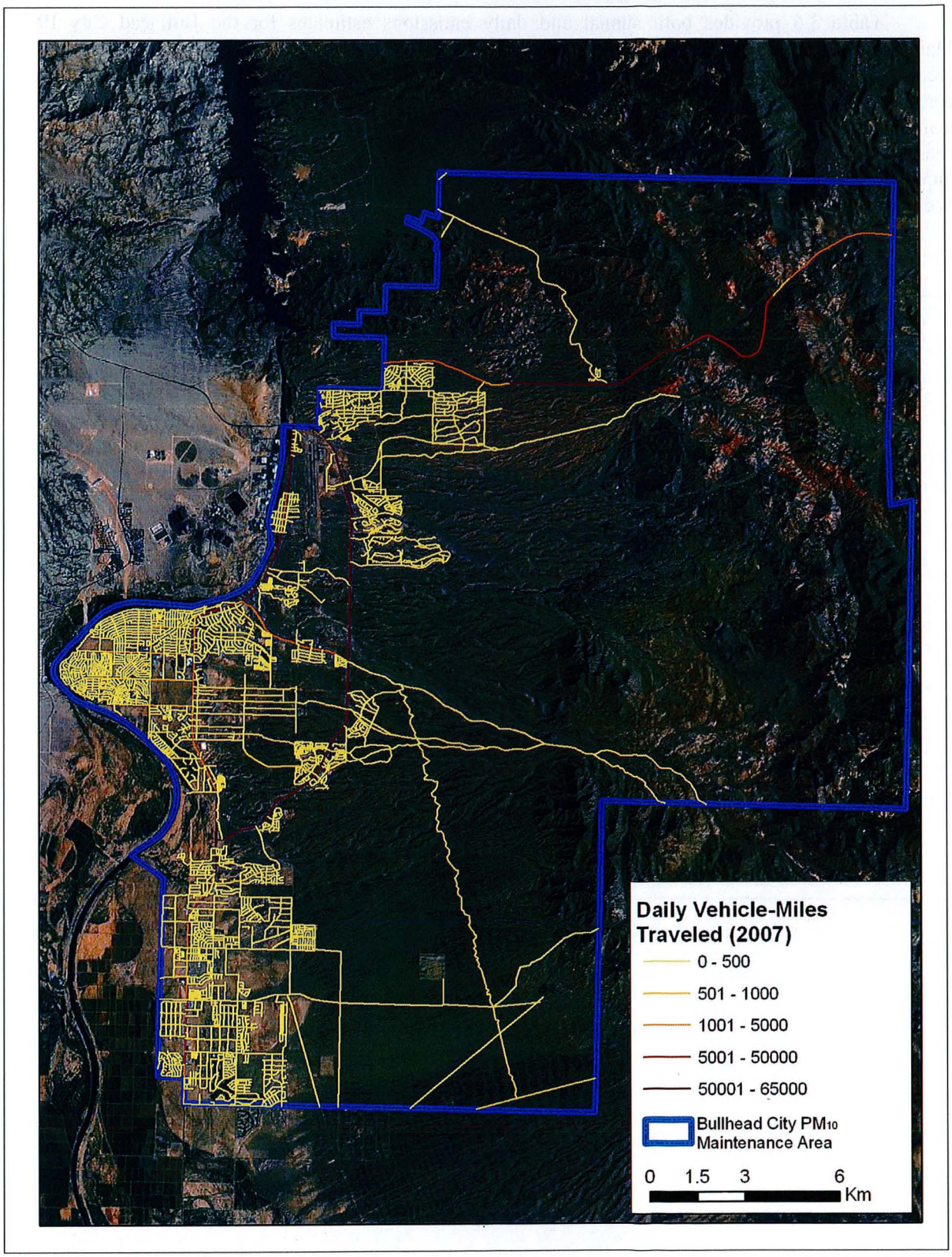
PM_{10} emissions from exhaust, tire, and brake wear. Because fugitive dust is not dependent on vehicle type mix, ADEQ applied the fugitive dust emissions factor directly to VMT to calculate these emissions. Table 3.5 summarizes VMT and fugitive dust, tire, exhaust, and brake PM_{10} vehicular emissions in 2007 in the Bullhead City PM_{10} Maintenance Area.

Table 3.5
Vehicular Emissions for 2007 for the Bullhead City PM_{10} Maintenance Area

Roadway Name or Roadway Class	Yearly VMT (2007)	Fugitive Dust PM_{10} (tpy)*	Tire, Exhaust, & Brake PM_{10} (tpy)*
Paved Roads			
Rural Minor Collector	647,510	0.49	0.03
Rural Other Principal Arterial	39,931,000	30.24	2.87
Urban Collector	23,012,885	17.43	1.24
Urban Local	24,411,565	18.48	1.31
Urban Minor Arterial	42,000,550	31.80	2.26
Urban Other Principal Arterial	165,670,945	125.45	11.20
Total Paved	295,674,455	**223.88**	**18.91**
Unpaved Roads			
Rural Local	383,980	373.42	0.02
Total Unpaved	**383,980**	**373.42**	**0.02**
Totals	**296,058,435**	**597.30**	**18.93**

* tpy: tons per year

Figure 3.2: VMT in Bullhead City PM_{10} Maintenance Area 2007



3.3. Summary of Estimated Emissions

Table 3.6 provides both annual and daily emissions estimates for the Bullhead City PM_{10} Maintenance Area calculated from the previously identified source categories. As identified in the preceding discussion, there are differences in methodological approach in emissions inventory construction between the 2002 LMP and this update. In addition to the effectiveness of the initial maintenance strategy, this results in different identified proportional contributions from the various categories. Since the maintenance designation, however, the ambient monitoring data shows significant improvements in air quality and the area continues to pass the motor vehicle growth demonstration (see Section 4.1, LMP Option Eligibility).

Table 3.6
Bullhead City PM_{10} Maintenance Area – 2008 Emission Estimates

Source Category	Bullhead City Maintenance Area PM_{10} Emissions (tons per year)	Bullhead City Maintenance Area PM_{10} Emissions (tons per day)	Percent of total PM_{10} Emissions in Bullhead City Maintenance Area
Unpaved Roads -fugitive Dust	373.42	1.02	5.1
Paved Roads-Fugitive Dust	223.88	0.61	3.0
Paved and unpaved roads-exhaust, tire, and brake wear	18.93	0.05	0.3
Subtotal of Mobile Emissions	616.23	1.69	
Construction	679	1.86	9.2
Windblown Dust	6,075.1	16.60	82.4
Industrial Sources	5.26	0.01	Less than 1
Total	**7,375.59**	**20.15**	**100**

4.0. LIMITED MAINTENANCE PLAN DEMONSTRATION

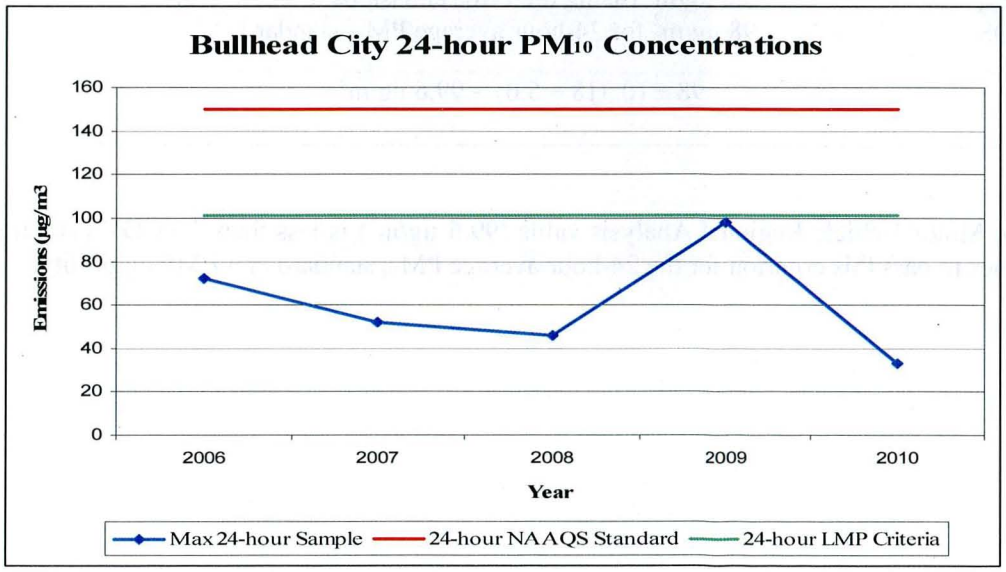
4.1. Limited Maintenance Plan (LMP) Option Eligibility

To be eligible for the LMP Option, two criteria must be met. First, the PM_{10} design value (DV) for the area, based upon the most recent five years of air quality data at all monitors in the area, should be at or below 98 $\mu g/m^3$ for the 24-hour PM_{10} NAAQS with no violations at any monitor in the nonattainment area. If the DV exceeds the 98 $\mu g/m^3$ limit, then the site-specific Critical Design Value (CDV) must be calculated.[15] The maintenance area also qualifies for the LMP option if the DV is less than the CDV. Second, an area should expect only limited growth in on-road motor vehicle PM_{10} emissions (including fugitive dust) and should have passed a motor vehicle regional emissions analysis test.[16] The analyses below show how both criteria for eligibility have been met.

The CDV for the area, 101 $\mu g/m^3$, is calculated using the most recent five years of data, which consist of three three-year design values (DV). The average of the DV and the standard deviation of the DV are then used to calculate a coefficient of variation (CV). Next the number of degrees of freedom[17] and a probability valuation of 95 percent, or .05, are used to obtain the critical t value (t_c). The final CDV is the result of the NAAQS of 150 divided by the product of CV and the t_c plus one.

Based on the most recent five years of certified air quality data, 2006-2010, the 24-hour design value for the Bullhead City area is 98 $\mu g/m^3$. Although this is equal to the EPA LMP eligibility criteria, 98 $\mu g/m^3$, the value is below the alternative evaluation against the CDV for the area, 101 $\mu g/m^3$ (Figure 4.1). Further, during the time period there have been no violations of the NAAQS.

Figure 4.1



[15] August 21, 2001 Wegman Memorandum: *Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas*

[16] The regional emission analysis test is used to determine whether increased emissions from on-road mobile sources could, in the next 10 years, increase concentrations in the area and threaten the assumption of maintenance that underlies the LMP policy.

[17] In statistics, the number of degrees of freedom is the number of values in the final calculation of a statistic that are free to vary.

The second criteria for eligibility. a motor vehicle regional analysis for the Bullhead City area, is performed using the methods described in Attachment B of the "LMP Option for Moderate PM_{10} Nonattainment Areas" memorandum. Figure 4.2 is the motor vehicle growth analysis demonstration for the Bullhead City PM_{10} Maintenance Area:

Figure 4.2
Bullhead City Area Motor Vehicle Growth Analysis

$$DV + (VMT_{pi} * DV_{mv}) \leq MOS$$

Where:

DV	=	the area's design value based on the most recent 5 years of quality assured data in ug/m^3
VMT_{pi}	=	the projected percentage increase in VMT over the next ten years[18]
DV_{mv}	=	motor vehicle design value based on on-road mobile portion of the attainment year inventory in ug/m^3
MOS	=	margin of safety for the relevant PM_{10} standard for a given area: 98 µg/m^3 for the 24-hour standard

Applying the test for the 24-hour average PM_{10} standard yields the following result:

DV	=	98 µg/m^3
VMT_{pi}	=	3.18 percent
DV_{mv}	=	5.0 µg/m^3 (using the PM_{10} emissions in Table 3.6)
MOS	=	98 µg/m^3 for 24-hour average PM_{10} standard

$$98 + (0.318 * 5.0) = 99.6 \text{ ug/m}^3$$

Because the Motor Vehicle Regional Analysis value (99.6 µg/m^3) is less than the CDV (101 µg/m^3) the area continues to pass this criterion for the 24-hour average PM_{10} standard and LMP eligibility.

[18] Based on a trend analysis of the most recent 10 years of population data for Bullhead city, ADEQ calculated an increase in VMT to be approximately 30 percent over a 10 year period for the area. The same percentage is applied for the Bullhead City VMT growth projection.

4.2. Improvements in Air Quality Not Due to Temporary Economic Downturn or Unusually Favorable Meteorology

Data provided previously show significant population growth in the Bullhead City area between 1970 and 2008 (see Tables 2.2 and 2.3) with continued growth expected into the future (Table 2.4). While the local unemployment rate has varied somewhat over time, total labor force data from 1990 through 2010 also demonstrates growth in the area, see Tables 2.5 and 2.6. The recent decline in growth rate and employment for the area (corresponding to a more widespread decline in the economy starting in 2008), however, is not correlated to the lower observed PM_{10} concentrations in the area. During the eight-year period during which the Limited Maintenance Plan has been in place the area has maintained levels below the PM_{10} LMP option eligibility threshold, regardless of economic growth or contraction. The continued maintenance of the PM_{10} NAAQS is not due to the temporary economic downturn recently observed. Further, a full range of meteorological conditions, both favorable and unfavorable, have been observed yet maintenance continues.

Growth in the area population and traffic associated with PM_{10} emissions were not responsible for the area's initial emissions problem and designation, and are not projected to change the attainment status in the analysis conducted in this update.

5.0. CONTROL MEASURES

5.1. Reasonably Available Control Measures (RACM)

Since existing industrial sources contribute less than one percent to the total 2008 PM_{10} emission estimates (Table 3.3), the RACT requirement does not apply to the Bullhead City area with respect to either primary or secondary PM_{10} emissions. PM_{10} emissions from existing industrial sources in the area are regulated under the ADEQ air permit program. Air quality permits are required for existing industrial sources, ensure adequate control of PM_{10} emissions, and contain PM_{10} controls such as production or discharge limits; maintenance and installation of air pollution controls (e.g. baghouses, water sprays, enclosures, shrouds, or scrubbers; and use of dust suppressants, soil stabilizers or wetting agents on haul roads, storage piles, and parking areas). The Air Quality Permits that cover the industrial sources listed in Table 3.1 require annual reporting of compliance status to ADEQ and provide for inspection of the facilities to ensure compliance.

5.1.1. SIP Incorporated Control Measures

The following implemented control measures were responsible for bringing the area into attainment and were approved by EPA in 2002[19]:

State of Arizona

-During active construction projects ADOT paved intersecting unpaved roads up to the state road alignment.

-ADOT paved shoulders and installed curbs along Arizona State Highway 95.

-ADEQ issued a rule, Arizona Administrative Code (A.A.C.) R18-2-607, requiring control of storage piles to minimize fugitive emissions.[20]

Bullhead City-

-Mohave County paved 12 miles of roads that were unpaved in 1989.

-EPA implemented New Source Performance Standards for woodstoves in 1988.

Mohave County-

-Mohave County paved unpaved parking areas and roadways, and added sidewalks, curbs, and gutters in Davis Camp Park.

-Mohave County paved 8.85 miles of roads that were unpaved in 1989.

5.1.2. Supplemental Control Measures

The following control measures are supplemental PM_{10} mitigation strategies included in the 1995 *PM_{10} State Implementation Plan for the Bullhead City PM_{10} Nonattainment Area* and 2002 *Bullhead City*

[19] 67 FR 43020

[20] *R18-2-607 Storage Piles* was submitted to EPA as R9-3-407 on January 4, 1979, and subsequently approved by EPA on April 23, 1982 (47 FR 17485). The rule was renumbered in 1993 to R18-2-607 and submitted to EPA for incorporation into the Arizona Applicable SIP on July 15, 1998.

Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment for which no emissions reduction credit was assumed:[21]

Bullhead City

-Bullhead City implemented a grading ordinance requiring control of dust during grading and excavation and requiring that property be left in a condition that prevents dust from arising[22]

-For the period 2002-2011 Bullhead City has completed the paving of an additional 7.5 miles of previously unpaved roads.

State of Arizona[23]

-ADOT specifications for state contracts include dust control plan requirements for construction activities in PM_{10} nonattainment and maintenance areas.

-In 2004, ADEQ rule A.A.C. R18-2-702(B) was updated to require 20% opacity standards for areas in nonattainment or maintenance areas for particulate matter standards.[24] The early implementation of the contingency measure (area opacity standard revision from 40% to 20%) was not due to a contingency measure trigger.

-Certified enhanced smoke management plan requirements were implemented by the Forest Service, Bureau of Land Management, and Arizona Department of State Lands, in cooperation with ADEQ[25].

These supplemental RACM controls contribute still further to fugitive dust emission reductions and public health protection. Continued implementation of the measures will help ensure that the Bullhead City area maintains the 24-hour PM_{10} NAAQS.

5.2. Permanent and Enforceable Control Measures

The CAA requires that each maintenance plan demonstrate that the measures that were credited with bringing the area into attainment are federally enforceable and continue in the future. The original attainment demonstration and maintenance plan submission relied primarily on paving activities to reduce emissions in the area. The paving identified is fully constructed and permanent, and ADOT continues to pave unpaved intersections to the ADOT right-of-way during construction projects. Therefore, the Bullhead City plan meets the CAA requirement for permanent and enforceable control measures.

---

[21] The identified supplemental mitigation strategies are provided for informational purposes only and are not provided for approval into the Arizona Applicable SIP.

[22] Bullhead City - Code of Ordinances, Chapter 15.40, Grading and Dust Control (Ord. 2008-46 § 1(part))

[23] In the Maintenance Plan Approval, EPA identified ADOT rule R17-3-712, Encroachments in Highway Rights-of-way (renumbered without change to R17-3-702 in 1988), as a strategy implemented beyond SIP enforceable controls (67 FR 43020, 43023; June 26, 2002). R17-3-702 has since been repealed and should no longer be considered a supplemental strategy in effect in the area.

[24] R18-2-702, *General Provisions*, was incorporated by reference by EPA August 24, 2004; effective September 23, 2004 (69 FR 51952).

[25] On October 2, 2007 ADEQ provided an "Enhanced Smoke Management Plan Certification" letter to Mr. Wayne Nastri of EPA outlining Arizona rules related to smoke management and regional haze.

5.3. Contingency Measures

Section 175A of the Act requires that a maintenance plan include contingency provisions, as necessary to promptly correct any violation of the NAAQS which may occur after redesignation of the area to attainment. EPA's memo, *Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas* (Wegman, August 9, 2001), states that the contingency measures do not have to be fully adopted, but should identify measures to be promptly adopted, if necessary. As previously noted, in 2004 the early implementation of a 20% opacity standard occurred.

Under the LMP option, the state is required to calculate the design value for the area annually and determine if the criteria of 98 $\mu g/m^3$ for the 24-hour standard (or, alternatively, the CDV) for the LMP option will still be met. If after performing the annual calculation, the state determines that the area has exceeded the LMP option limit, the state commits to take action to attempt to reduce PM_{10} concentrations enough to remain qualified for the LMP option.

Further, the state commits to seek an expeditious remedy for any potential violation of the PM_{10} NAAQS which may occur. Specifically, the state commits to determine whether or not violations have been recorded within six months after the close of the calendar year, and to review and determine appropriate contingency measure(s) by the end of the same calendar year. The state commits to implementation of the selected contingency measure(s) within one year after determining that a violation has occurred.

Table 5-1 includes measures that will be considered for implementation in the event of a violation of either the 24-hour NAAQS or in the event the annual recalculation of the area's average design value exceeds the LMP option design value criteria. The cause of the violation or exceedance of the LMP option design value will help determine the appropriate contingency measure(s) to be implemented.

Table 5.1
Bullhead City Area Contingency Measures

Contingency Measures	Implementing Entity
Review of Bullhead City grading ordinance to determine if additional action is needed.	Bullhead City
Increased enforcement efforts, or develop a compliance survey, for standards for the installation and maintenance of landscaping and screening (Bullhead City Zoning Regulation, Chapter 17.48, Landscaping and Screening Regulations).	Bullhead City
Pave or stabilize unpaved roads located in the PM10 maintenance area.	Bullhead City and/or Mohave County
Pave additional unpaved parking areas in Davis Camp Park (south beach parking areas)	Mohave County
Cleanup of roadways after rainstorms	Mohave County
Increase enforcement efforts, or develop a compliance survey, for the requirement for all commercial establishments to pave parking lots (Mohave County Zoning Regulations, Section 26 Off-Street Parking standards	Mohave County
Exercise authority under the Enhanced Smoke Management Plan - state and federal land managers conducting prescribed burning must register with ADEQ for proposed burning activities (Arizona Administrative Code R18-2-Article 15 - Forest & Range Management Burns). ADEQ maintains the ability to deny permission for burning on certain high risk days (dependent on meteorological conditions) and may increase outreach and enforcement resources.	U.S. Forest Service, U.S. Bureau of Land Management, Arizona State Land Department, ADEQ.
Review of the requirement for dust control measures for material storage piles to determine if revision is needed (A.A.C. R18-2-607)	ADEQ

6.0. REGULATORY COMMITMENTS

Consistent with the March 2002 *Bullhead City Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment* submittal, ADEQ reaffirms to EPA the following commitments regarding air quality monitoring, control measures and maintenance of an emissions inventory:

1. The State of Arizona will continue to operate an appropriate PM_{10} air quality monitoring network to verify the attainment status of the area in accordance with 40 CFR part 58. The Bullhead City monitoring network is described in Section 3.1 of this plan.

2. The control measures for the area, which were responsible for bringing the area into attainment, were approved by EPA as meeting reasonably available control measures (RACM) and reasonably available control technology (RACT) requirements, described in Section 5.0 of this plan, will continue in force throughout the maintenance period.

3. Submission of Annual Reports to EPA and Continued Maintenance

   The ADEQ Air Quality Division will continue to submit annual reports to EPA. These reports will include calculation of the Bullhead City Maintenance Area PM_{10} design value to document and monitor the area's air quality levels. Should the levels rise above the limits qualifying the area for the LMP, the State will act to lower them. Should the actions fail, the state will develop and submit a full maintenance plan, as required under the LMP guidance.

4. New Source Permitting

   Arizona Administrative Code (AAC) R18-2-406, *Permit Requirements for Sources Located in Attainment and Unclassifiable Areas*, is applicable to any major source or major modification to a source located within the maintenance area.

Since the implementation of the LMP in the Bullhead City PM_{10} Maintenance Area, monitoring data demonstrates the area is controlling PM_{10} and, given the implemented control measures, ADEQ's emission estimates predict the area will continue to demonstrate maintenance of the PM_{10} NAAQS through 2022, the second ten years of the maintenance period. If there is an unexpected increase in PM_{10} emissions at some time during the remainder of the maintenance period, contingency measures are identified to maintain compliance through the maintenance period.

Enclosure 4

Public Process Documentation

(1) Public Hearing Notice
(2) Proof of Publication – Public Hearing Notice
(3) Public Hearing Agenda
(4) Public Hearing Sign-in Sheet
(5) Public Hearing Officer Certification
(6) Public Hearing Transcript
(7) Responsiveness Summary

(This Page Intentionally Left Blank)

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ)

PUBLIC NOTICE

ON THE 2012 LIMITED MAINTENANCE PLAN UPDATE
FOR THE BULLHEAD CITY PM_{10} MAINTENANCE AREA

ADEQ is providing public notice of the proposed 2012 Limited Maintenance Plan Update for the Bullhead City PM_{10} Maintenance Area. This update provides discussion of the area's continued maintenance, a review of the emissions inventory for the area and a demonstration of continued maintenance in the area through 2022.

A public hearing on the SIP Revision will be held on Thursday, May 3rd, 2012 at 1:30 pm at Mohave Community College, Bullhead City Campus, Room 806, 3400 Highway 95, Bullhead City, AZ 86442. All interested parties will be given an opportunity at the public hearing to submit relevant comments, data, and views, orally and in writing.

The public comment period for this SIP Revision begins March 23rd, 2012 and will end upon the closure of this public hearing, or at 6:00 p.m. on May 3rd, 2012 whichever is later.

All written comments should be addressed, faxed, or e-mailed to:

John J. Englander
Air Quality Planning Section
Arizona Department of Environmental Quality
1110 W. Washington St
Phoenix, AZ 85007
PHONE: (602) 771-4781
FAX: (602) 771-2366
E-Mail: englander.john@azdeq.gov

A copy of the proposal is available for review on the ADEQ website's Events and Notices Calendar at the following web address http://www.azdeq.gov/cgi-bin/vertical.pl or at the following locations:

ADEQ Records Center
1110 W. Washington St
Phoenix, AZ 85007
First Floor
(602) 771-4380

Proof of Publication

STATE OF ARIZONA

ss.

County of Mohave

Shirin McGraham or Thom McGraham being duly sworn says that during the publication of the notice, she/he was and now is the Editor/Publisher of the *BULLHEAD CITY BEE*, weekly newspaper published on Friday of each and every week at the City of Bullhead City, in said county.

That said newspaper was printed and published as aforesaid on the following dates, to-wit:

March 23, 2012
March 30, 2012

That the ADEQ Public Hearing Notice of which the annexed copy is a printed and true copy, was printed and inserted in each and every copy of said newspaper printed and published on the dates aforesaid, and in body of said newspaper and not in a supplement thereto.

Thom McGraham

Subscribed and sworn to me this

30th day of March, 2012.

Rebecca A. Federico
Notary Public

(My commission expires 9-15-2015)

REBECCA A. FEDERICO
Notary Public - State of Arizona
MOHAVE COUNTY
My Commission Expires
September 15, 2015

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ)
PUBLIC HEARING
ON THE 2012 LIMITED MAINTENANCE PLAN UPDATE FOR THE BULLHEAD CITY PM10 MAINTENANCE AREA

ADEQ will hold a public hearing to receive comments on the proposed 2012 Limited Maintenance Plan Update for the Bullhead City PM10 Maintenance Area. This update provides discussion of the area's continued maintenance, a review of the emissions inventory for the area and a demonstration of continued maintenance in the area through 2022.

A public hearing on the SIP Revision will be held on Thursday, May 3rd, 2012 at 1:30 pm at Mohave Community College, Bullhead City Campus, Meeting Room 806, 3400 Highway 95, Bullhead City, AZ 86442. All interested parties will be given an opportunity at the public hearing to submit relevant comments, data, and views, orally and in writing. The public comment period for this SIP Revision will end upon the closure of this public hearing, or at 6:00 p.m. on May 3rd, 2012 whichever is later.

All written comments should be addressed, faxed, or e-mailed to:

John J. Englander
Air Quality Planning Section
Arizona Department of Environmental Quality

ADEQ Arizona Department of Environmental Quality

Public Hearing Agenda

AIR QUALITY DIVISION

PUBLIC HEARING ON THE PROPOSED 2012 LIMITED MAINTENANCE PLAN UPDATE FOR THE BULLHEAD CITY PM_{10} MAINTENANCE AREA

PLEASE NOTE THE MEETING LOCATION AND TIME:

Mohave Community College, Bullhead City Campus, Meeting Room 806
3400 Highway 95, Bullhead City, AZ, 86442
Thursday, May 3, 2012, 1:30 PM

Pursuant to 40 CFR § 51.102 notice is hereby given that the above referenced meeting is open to the public.

1. Welcome and Introductions
2. Purposes of the Oral Proceeding
3. Procedure for Making Public Comment
4. Brief Overview of the proposed LMP Update
5. Question and Answer Period
6. Oral Comment Period
7. Adjournment of Oral Proceeding

Copies of the proposal are available for review online at www.azdeq.gov, under Air Quality, Planning (SIPs), or at the Arizona Department of Environmental Quality (ADEQ) Library, 1110 W. Washington St., Phoenix, Arizona. For additional information regarding the hearing please call John Englander, ADEQ Air Quality Division, at (602) 771-4781 or toll-free at 1-800-234-5677, Ext. 771-4781.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Dan Flukas at (602) 771-4795 or 1-800-234-5677, Ext. 771-4795. Requests should be made as early as possible to allow sufficient time to make the arrangements for the accommodation. This document is available in alternative formats by contacting ADEQ TDD phone number at (602) 771-4829.

ADEQ
Arizona Department of Environmental Quality

Air Quality Division Sign-In Sheet

Please Sign In

SUBJECT _____ DATE _____

	NAME	ORGANIZATION	PHONE	FAX	E-MAIL
1.	Robert Leuck	City of Bullhead City	928-763-0128	928-763-0111	bleuck@bullheadcity.co
2.					
3.					
4.					
5.					
6.					
7.					
8.					

ADEQ
Arizona Department
of Environmental Quality

Air Quality Division

Public Hearing Presiding Officer Certification

I, Deborrah Martinkovic, the designated Presiding Officer, do hereby certify that the public hearing held by the Arizona Department of Environmental Quality was conducted on May 3, 2012, at Mohave Community College, Bullhead City Campus, Meeting Room 806, 3400 Highway 95, Bullhead City, AZ 86442, in accordance with public notice requirements by publication in *The Bullhead City Bee* beginning March 23, 2012. Furthermore, I do hereby certify that the public hearing was recorded from the opening of the public record through concluding remarks and adjournment, and the transcript provided contains a full, true, and correct record of the above-referenced public hearing.

Dated this 9th day of May 2012.

Deborrah Martinkovic

State of Arizona)
) ss.
County of Maricopa)

Subscribed and sworn to before me on this 9th day of May 2012

Notary Public State of Arizona
Maricopa County
Laura McFarland
My Commission Expires 04/02/2016

Laura McFarland
Notary Public

My commission expires: 4/2/16

PROPOSED ARIZONA AIR QUALITY
2012 LIMITED MAINTENANCE PLAN UPDATE
FOR THE BULLHEAD CITY PM_{10} MAINTENANCE AREA

Oral Proceeding

Hearing Officer Script

May 3, 2012

Deborrah "Corky" Martinkovic: Good afternoon, thank you for coming. I now open this hearing on the proposed 2012 Limited Maintenance Plan Update for the Bullhead City PM_{10} Maintenance Area.

Today is May 3, 2012, and the time is 1:40 p.m. The location is the Mohave Community College, Bullhead City Campus Meeting Room 710, 3400 Highway 95, Bullhead City, AZ 86442. My name is Deborrah "Corky" Martinkovic and I have been appointed by the Director of the Arizona Department of Environmental Quality (ADEQ) to preside at this proceeding.

The purposes of this proceeding are to provide the public with an opportunity to:
(1) hear about the substance of the proposed update to the Bullhead City PM_{10} Limited Maintenance Plan (LMP),
(2) ask questions regarding the update, and
(3) present oral argument, data and views regarding the update in the form of comments on the record.

Representing the Department are John Englander and myself.

Public notice appeared in The Bullhead City Bee on March 23, 2012 and March 30, 2012, as well as ADEQ's website. Copies of the proposal titled, *2012 Limited Maintenance Plan Update for the Bullhead City PM_{10} Maintenance Area,* were made available at the ADEQ Phoenix office and on the ADEQ website.

The procedure for making a public comment on the record is straightforward. If you wish to comment, you need to fill out a speaker slip, which is available at the sign-in table, and give it to me. Using speaker slips allows everyone an opportunity to be heard and allows us to match the name on the official record with the comments. You may also submit written comments to me today. Please note that the comment period for the Update to the LMP ends today, May 3, 2012. All written comments must be postmarked if sent via U.S. mail or received if sent via e-mail or fax at ADEQ by May 3, 2012. Written comments can be mailed to John Englander, Air Quality Planning Section, Arizona Department of Environmental Quality, 1110 W. Washington Street, Phoenix, 85007 or englander.john@azdeq.gov. Comments may also be faxed to (602) 771-2366.

Comments made during the formal comment period are required by law to be considered by the Department when preparing the final state implementation plan. This is done through the preparation of a responsiveness summary in which the Department responds in writing to written and oral comments made during the formal comment period.

The agenda for this hearing is simple. First, we will present a brief overview of the proposed update to the Limited Maintenance Plan.

Second, I will conduct a question and answer period. The purpose of the question and answer period is to provide information that may help you in making comments on the proposed revision.

Thirdly, I will conduct an oral comment period. At that time, I will begin to call speakers in the order that I have received speaker slips.

Please be aware that any comments at today's hearing that you want the Department to formally consider must be given either in writing or on the record at today's hearing during the oral comment period of this proceeding.

At this time, John Englander will give a brief overview of the proposal.

* * * * *

John Englander: In 1993, EPA designated the Bullhead City area a moderate nonattainment area for the PM_{10} National Ambient Air Quality Standard (NAAQS) due to two recorded exceedances of the 24-hour NAAQS for PM_{10} at area monitors. In response to the designation, the Arizona Department of Environmental Quality (ADEQ) submitted a State Implementation Plan (SIP) projecting attainment of the PM_{10} NAAQS by 2001 with the implementation of control measures. Following a three year period when there were no measured exceedances of the NAAQS (1998-2000), in February of 2002 ADEQ submitted to EPA the *Bullhead City Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment*. The plan was approved in 2002, resulting in a redesignation to attainment for the PM_{10} standard and qualification for a Limited

Maintenance Plan (LMP) option for continued reporting and planning requirements.

Pursuant to the Clean Air Act (CAA) Section 175A(b), "8 years after redesignation of any area as an attainment area under section 107(d), the State shall submit to the Administrator an additional revision of the applicable State implementation plan for maintaining the national primary ambient air quality standard for 10 years after the expiration of the first 10-year period referred to in subsection (a)", which is the limited maintenance plan. This SIP updates the 2002 *Bullhead City Moderate Area PM_{10} Maintenance Plan and Request for Redesignation to Attainment*, providing for the maintenance of the national primary ambient air quality standard for the years 2012 through 2022.

The document includes a brief description of the PM_{10} regulatory history of the Bullhead City area, a description of the community and maintenance area, an updated emissions inventory, demonstration of continued Limited Maintenance Plan eligibility and discussion of regulatory commitments made to preserve maintenance of the NAAQS through 2022.

This concludes the explanation period of this proceeding on the proposed revision to the state implementation plan.

* * * * *

Ms. Martinkovic: Okay. Thank you, John.

Are there any questions before we move to the oral comment period?

Hearing none, this concludes the question and answer period of this proceeding on the proposed state implementation plan revision, or LMP in this case.

* * * * *

I now open this proceeding for oral comments.

Seeing no speaker slips, this concludes the oral comment period of this proceeding.

* * * * *

If you have not already submitted written comments, you may submit them to me at this time. Again, the comment period for the proposed revision to the state implementation plan ends today, May 3, 2012.

Thank you for attending.

The time is now 1:10, excuse me, 1:50 p.m.. Again the comment period for this proposed revision is May 20, 2012. I now close this oral proceeding.

Responsiveness Summary

The oral proceeding on the *Proposed Update of the Limited Maintenance Plan for the Payson PM_{10} Maintenance Area* was held on Wednesday, November 2, 2011, 2:34 to 2:40 p.m., at the Payson Public Library Meeting Room, 328 N. McLane Road, Payson, AZ 85541. The public comment period closed at 6:00 p.m. on Wednesday November 2, 2011. ADEQ received one written comment regarding a typographical error regarding a referenced table in Figure 4.2 of the proposed update. The corrected table reference for the figure is included in the *Final Update of the Limited Maintenance Plan for the Payson PM_{10} Maintenance Area*. No oral public comments were made during the comment period. During the final review of the proposed update, ADEQ determined no further clarifications were needed.